Pfizer to buy Wyeth in $68-billion deal

One of the world's biggest pharmaceutical companies is set to get even larger. Pfizer announced on 26 January that it intends to acquire Wyeth, a company with a strong reputation in biologics and vaccines.

The combined company — united under the name Pfizer — would be a behemoth, with nearly 130,000 employees and more than US$71 billion in revenue. Pfizer will pay about $68 billion for Wyeth, based in Madison, New Jersey, an unusually large deal given the current financial crisis. The acquisition, expected to close late this year, will draw on Pfizer's cash and stock resources, along with a loan of $22.5 billion, backed by a syndicate of five banks, some of which recently received bail-out funds from the US government.

The deal comes as Pfizer nears the expiry dates of its patents on several key drugs, including atorvastatin (Lipitor), a cholesterol medication that is the best-selling drug in the world.

Over the past two years, Pfizer has shed 16,000 employees, closed 15 manufacturing sites, and culled research programmes (see *Nature* **456,** 6–7; 2008). The company now says it intends to cut 19,500 more jobs, losing 15% of its workforce. This includes 8,000 job losses announced before the Wyeth purchase.

J. CHRISTENSEN/REUTERS

Pfizer's headquarters in New York, where Pfizer and Wyeth announced that they would merge.

Both Wyeth and Pfizer have strong research programmes in diseases of the central nervous system, such as Alzheimer's disease, and in animal health-care products. But Pfizer chief executive Jeffrey Kindler says that the Wyeth acquisition will diversify Pfizer's pipeline, particularly in vaccines and in biologics — drugs comprised of complex biological molecules.

In the short term, Wyeth can bolster Pfizer's portfolio with two top-selling products. The pneumococcal conjugate vaccine (Prevnar) against meningitis in infants and children is the world's best-selling vaccine, and etanercept (Enbrel) — an arthritis and psoriasis therapy that Wyeth markets with Amgen of Thousand

Ocean fertilization: dead in the water?

The theory that adding iron to the oceans can help suck up atmospheric carbon dioxide cheaply and efficiently has received a further blow. A study[1] published in this week's issue of *Nature* (see page 577) finds that the potential of iron-induced carbon sequestration is far lower than previously estimated.

During the CROZEX experiment in 2004 and 2005, scientists on board the British vessel RSS *Discovery* observed the impact of natural iron fertilization on algal growth and carbon export near the Crozet Islands, an archipelago some 2,000 kilometres southeast of South Africa. The team found that, relative to one unit of added iron, the amount of carbon sequestered to 200 metres' depth, where it will stay for a couple of decades, was almost 80 times smaller than the amount that scientists had determined during a similar study in the nearby Kerguelen region[2].

"Ecosystem response and carbon export seem to vary very substantially from region to region," says Ulrich Bathmann, a biological oceanographer at the Alfred Wegener Institute (AWI) for Polar and Marine Research in Bremerhaven, Germany, who was not involved in the new study. "And the closer you look, the more complex the story gets."

Separately, on 26 January, the German science ministry gave the green light to LOHAFEX, an Indo-German ocean-fertilization experiment that has been waiting to get going in the Southern Ocean. Responding to environmental and political concerns, the ministry had ruled on 13 January that an independent assessment be carried out before the experiment could start[3]. From aboard the German vessel RV *Polarstern*, the LOHAFEX team plans to dump 20 tonnes of iron sulphate into a 300-square-kilometre area between Argentina and the Antarctic Peninsula.

The CROZEX study, led by Raymond Pollard of the National Oceanography Centre in Southampton, UK, looked instead at natural ocean fertilization, in which iron-rich dust blowing off the Crozet Islands settles on the waters. The team observed that some 270 tonnes of iron triggered a two- to threefold increase in biological productivity over an area the size of Ireland. But sediment probes revealed that the export of carbon to the deep ocean was nowhere near as massive as the Kerguelen study, and lab experiments, had suggested.

Although the study design allowed for only a rough estimate of carbon sequestration, the findings are sobering. Previously, scientists had cautioned that removing 30% of the carbon released every year as a result of human activity would require treating an ocean area ten times larger than the entire Southern Ocean, the most fertile waters for iron seeding[4]. Scaled up, the CROZEX results imply that even if the world's total ocean surface had a craving for iron, satisfying that would not have a large effect on the levels of atmospheric CO_2.

"You might get a different response if you shock the system by dumping a lot of iron all at once," says Pollard. "The effect will still be much

Oaks, California — is the world's best-selling biologic. Wyeth's expertise in developing and manufacturing biologics is particularly enticing: biologics can bring in large revenues and are more difficult to copy as generic drugs. As a result, pharmaceutical companies that have traditionally relied on small-molecule drugs are now trying to bolster their expertise in biologics.

But in the past, Pfizer's large acquisitions were blamed for slowing productivity and damaging employee morale. 'Mega-mergers' between large, mature pharmaceutical companies have an uneven track record, says Gary Pisano, a professor at the Harvard Business School in Boston, Massachusetts. "It's hard to think of how a merger of two companies that have been struggling with their pipeline performance will lead to a more innovative company," he says. "The data are pretty clear that when companies go through that, often innovative performance declines."

At a press conference on 26 January, Kindler acknowledged this legacy, but maintained that Pfizer is a very different company now. Recent restructuring has created smaller, more focused research units and streamlined management, both of which may guard against the organizational chaos that resulted from past acquisitions, he says. "We obviously have learned a lot from our prior acquisitions," he says. "This is very, very different from prior large pharmaceutical mergers." ■

Heidi Ledford

ALFRED WEGENER INSTITUTE

RV *Polarstern*: ready to fertilize the ocean.

smaller than some geoengineers would wish."

Some think it is game over. "Ocean iron fertilization is simply no longer to be taken as a viable option for mitigation of the CO_2 problem," says Hein de Baar, an oceanographer at the Royal Netherlands Institute for Sea Research in Texel. ■

Quirin Schiermeier

1. Pollard, R. T. *et al. Nature* **457,** 577–580 (2009).
2. Blain S. *et al. Nature* **446,** 1070–1074 (2007).
3. *Nature* **457,** 243 (2009).
4. Buesseler, K. O. & Boyd, P. W. *Science* **300,** 67–68 (2003).

K. CAMPBELL/GETTY

GOT A NEWS TIP?
Send any article ideas for Nature's News section to **newstips@nature.com**

Science adviser should show his independence, says report

The UK government's chief scientific adviser has hit back at members of parliament who slammed him last week for what they see as his failure to adequately defend the use of science in policy-making.

In a report published on 20 January, the House of Commons committee for innovation, universities, science and skills criticized John Beddington, a population biologist who took up his post on 1 January 2008, for "defending government policy" when he should "champion evidence-based science within government".

Responding to the criticisms, Beddington told *Nature*: "I am surprised and disappointed about the committee's comments. I think their comments are unfair and unbalanced." But he says he intends to raise his public profile this year, by instigating a comparison of science-policy advice used by President Barack Obama and by the European Commission. "I am more than happy to challenge the government where it is appropriate," he says, "but I also need to work within government to influence policy."

In particular, the report expressed concern that Beddington has not challenged the government over its decision to provide homeopathic medicine free through the National Health Service. In contrast, David King, Beddington's predecessor, openly attacked the government's policy on homeopathy, warning that it could put patients' health at risk. Beddington says he made it "crystal clear" in oral and written evidence to the committee that he "saw no credible scientific evidence" that homeopathy is effective at treating medical conditions beyond having a placebo effect.

Phil Willis, chairman of the Commons committee that produced the report, says his group will continue to scrutinize Beddington. "It is very important that he is seen as independent," Willis says. "If the chief scientific adviser is part of the establishment and does not use his position to challenge the government in its use of science, then no one else can do it."

IMPERIAL COLLEGE LONDON

John Beddington, UK chief scientific adviser.

Nick Dusic, director of the Campaign for Science & Engineering in the UK, says "there is a general worry" among the science community that Beddington does not have as high a profile as previous science advisers, such as King and Robert May, who held the post from 1995 to 2000. "Challenging the government on its use of science in policy-making is the key job of the chief scientific adviser," says Dusic. "He may be doing this inside government, but as outsiders we are not seeing it."

Beddington "is a tough character and very good at what he does, but more of a low-key character than I was", says May. "As chief scientific adviser you have to operate in the culture of the civil service but must also be and be seen as an independent voice. I have no doubt he is an independent voice — I don't know if he was conveying this."

The committee's report also has harsh words for the Department for Innovation, Universities and Skills, which was set up in June 2007 and is responsible for science funding. Willis told *Nature* that the department had produced an "appalling" annual report, making it difficult for the committee to judge how well the department is working. "The jury is still out about the department. But it was hard to find anyone who thought it was working effectively," he says.

A spokesman for the department noted that its annual report had been produced in early 2008, when the department was less than a year old. He says it "will respond fully in due course". ■

Natasha Gilbert