

POLICY

Flu publishing

The US government has agreed that two studies that created ferret-transmissible versions of the H5N1 avian influenza virus should be published. It accepted the recommendation from its National Science Advisory Board for Biosecurity on 20 April. But the fate of one of the studies, by researchers in the Netherlands, remains in limbo, with its publication held up by export control laws. A 23 April meeting to review the controversy, organized by the Dutch government, made no breakthrough; its discussions were kept confidential as *Nature* went to press.

Fracking curbed

The US Environmental Protection Agency announced national standards for emissions from oil and gas drilling on 18 April. Oil and gas companies working in the United States now have until 2015 to introduce technology to capture excess methane and other volatile organic compounds. The long-awaited decision marks the Obama administration's first efforts to tighten regulation of hydraulic fracturing, or 'fracking', which involves pumping fluid into rocks to release natural gas and oil.

US export controls

Space-science researchers have welcomed an 18 April report recommending a relaxation of rules on US export controls. Many in industry and academia believe the rules have stunted satellite research and manufacturing in the country, partly by blocking research collaboration with non-US scientists. In 1998, authority over satellite technology that might have a second military use was shifted from the commerce



R. MARKOWITZ/NASA

Space shuttle makes its final flight

Having completed 39 missions in 27 years — more than any other manned spacecraft — NASA's space shuttle *Discovery* had spectators looking up one last time as it flew over Washington DC on 17 April atop a modified Boeing 747 aeroplane. After landing, *Discovery* was transported to the National Air and Space

Museum's Steven F. Udvar-Hazy Center in Chantilly, Virginia, part of the Smithsonian Institution. Other retired shuttles are also moving around: *Endeavour* to the California Science Center in Los Angeles and the flight test vehicle *Enterprise* to the Intrepid Sea, Air and Space Museum in New York City.

department to the state department, and export rules were tightened. But the report from the defence and state departments recommends that the shift be reversed for some technologies, such as certain communications satellites. Congress would have to approve any legislative changes. See go.nature.com/c2cke for more.

Ecosystems panel

Governments have launched a United Nations scientific panel that will independently assess research on the state of the planet's fragile ecosystems — in much the same way as the Intergovernmental Panel for Climate Change summarizes climate research. Representatives of more than 90 countries agreed to establish the Intergovernmental

Platform on Biodiversity and Ecosystem Services (IPBES) at a meeting in Panama City last weekend. The panel's secretariat will be hosted in Bonn, Germany, and its budget and assessment themes will be decided in 2013. See go.nature.com/gcfdli for more.

Arctic fishing

More than 2,000 scientists from 67 countries have signed an open letter urging Arctic nations to prevent commercial fishing in waters exposed by melting sea ice. Industrial fishing has not yet begun there, but with more research needed into ecosystem impacts, the letter says that Arctic countries should put a moratorium on it anyway. The letter was released by the Pew Environment Group on 23 April to coincide with the International Polar

Year 2012 scientific conference in Montreal. See go.nature.com/fw9cov for more.

Mexico climate law

Mexico passed one of the strongest national climate-change laws so far on 19 April, committing to reduce emissions of carbon dioxide by 30% below business-as-usual levels by 2020 and 50% below 2000 levels by 2050, as well as aspiring to produce 35% of the country's electricity from renewable sources by 2024. See page 430 for more.

PEOPLE

Royal Society intake

Cosmologist and Nobel laureate Brian Schmidt, of the Australian National University in Weston Creek, was one of 44 fellows (42 of them men)

AP elected to London's Royal Society on 19 April. Others include Steve Jones, a geneticist and public communicator of science at University College London, and Michele Dougherty, a space physicist at Imperial College London and a principal investigator on the Cassini-Huygens mission round Saturn. The Royal Society has around 1,350 fellows.



towns. The volcano, which is one of Mexico's most active and is well monitored, could close Mexico City's airport if winds blow ash in that direction. As *Nature* went to press, locals were being asked to stay at least 12 kilometres away. See go.nature.com/czvd3r for more.

EVENTS

India missile test

India's nuclear-capable Agni-V missile made a successful maiden flight on 19 April, hitting its designated target in the southern Indian Ocean 20 minutes after launch from Wheeler Island, off India's east coast. With a range of at least 5,000 kilometres, the 50-tonne, 17.5-metre-long missile brings major Chinese cities such as Shanghai and Beijing into India's strike envelope. The missile is not expected to be a part of the Indian army's arsenal for at least two years, after more tests have been done.

Mexican volcano

The volcano Popocatepetl, 60 kilometres from Mexico City, was throwing out ash and chunks of rock last week (pictured), putting local officials on the alert for a possible evacuation of nearby

BUSINESS

Vioxx endgame

The long-running legal fallout from the marketing of the infamous painkiller Vioxx (rofecoxib) has finally concluded, after a US judge accepted manufacturer Merck's plea of guilty to promoting the drug as an arthritis treatment before it was officially approved. The court settlement on 19 April came with a previously announced US\$950-million fine. Merck, which is based in Whitehouse Station, New Jersey, agreed in 2007 to pay \$4.85 billion to settle nearly 27,000 other lawsuits that claimed the medicine had caused heart

attacks and strokes. But industry watchdogs say that the legal punishments are unlikely to prevent similar problems from arising with other drugs. See go.nature.com/vcetix for more.

Takeover dropped

Drug giant Roche, based in Basel, Switzerland, has withdrawn its hostile takeover bid for DNA-sequencing company Illumina. The move came after shareholders at Illumina, of San Diego, California, rebuffed Roche's efforts at Illumina's 18 April annual meeting to install board members who favoured the merger. Roche offered US\$5.7 billion (\$44.50 per share) in January, then raised its offer to \$6.7 billion in March before announcing last week that the offer would expire on 20 April. See go.nature.com/d3e7po for more.

Mining asteroids

A venture that aims to mine asteroids made a media splash on 24 April, announcing support from Google's chief executive Larry Page, filmmaker James Cameron and other wealthy backers. Mining venture Planetary Resources, in Seattle, Washington, says that it will launch a surveyor into low Earth orbit in two years to identify asteroids rich in metal and water, with the aim of opening up deep-space

COMING UP

28 APRIL-1 MAY
The National Academy of Sciences holds its 149th annual meeting in Washington DC and elects new members. go.nature.com/5hebou

29 APRIL-2 MAY
The 3rd International Conference on Stem Cell Engineering in Seattle, Washington, will focus on designing cellular therapies. stemcell.aiche.org

prospecting to private firms. See go.nature.com/pmuq8p for more.

Offer rebuffed

Human Genome Sciences (HGS) has rejected a US\$2.6-billion takeover bid from its research partner GlaxoSmithKline (GSK), saying that the offer undervalues the company. HGS, a biotechnology firm based in Rockville, Maryland, is best known for the lupus medication Benlysta (belimumab), but it is also working with GSK on phase III trials for the cardiovascular drug darapladib and the type 2 diabetes treatment albiglutide.

Biotech buy

Pharmaceutical giant AstraZeneca of London will spend around US\$1.26 billion to buy Ardea Biosciences, it announced on 23 April. Ardea is a biotechnology company based in San Diego, California; its main asset is lesinurad, a potential treatment for gout that is in phase III clinical trials. The deal (worth \$1 billion once cash held by Ardea is taken into account) is AstraZeneca's largest acquisition since it bought MedImmune, of Gaithersburg, Maryland, for \$15.6 billion in 2007.

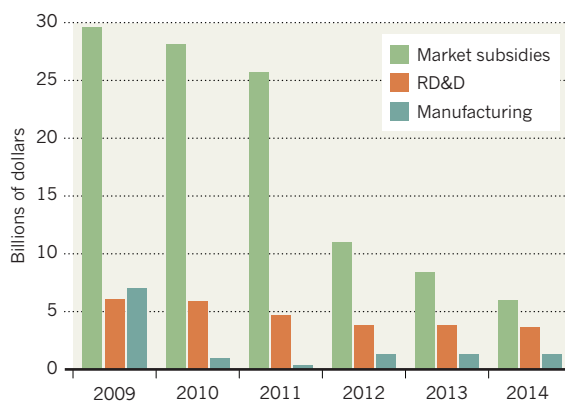
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TREND WATCH

By 2014, US government investment in clean-energy technologies could be about 75% less than in 2009, owing to the end of stimulus spending and the lapse of subsidies, says a report by bodies including the Brookings Institution in Washington DC. Funding for energy research, development and demonstration (RD&D) has already dropped by 38%. The report argues that subsidies should be reformed to reward innovation, and calls for RD&D funding to be tripled. See go.nature.com/yppnw3 for more.

HARD TIMES AHEAD FOR CLEAN TECH

Government spending on clean-energy technologies is set to decline dramatically in the United States.



SOURCE: WRI/BREAKTHROUGH INST./BROOKINGS INST.