

SEVEN DAYS

The news in brief

POLICY

Methane rules

The US Environmental Protection Agency finalized a trio of regulations on 12 May that aim to reduce emissions of methane and other pollutants from oil and gas fields. Methane is 25 times more powerful than carbon dioxide at trapping heat in the atmosphere, and the agency projects that the new regulations will reduce methane emissions by the equivalent of 11 million tonnes of CO₂ in 2025. The regulations apply only to new and modified operations, but the agency says that it is planning a separate regulatory process for existing ones.

Costly climate

The annual cost of adapting to a warming world for developing countries could reach US\$280 billion to \$500 billion by 2050, according to the United Nations Environment Programme's second Adaptation Gap Report, released on 10 May. Countries and multilateral institutions have increased adaptation aid, which totalled \$22.5 billion in 2014, according to the report, but adaptation costs are already two or three times higher than that. The agency also called for a system to track investments and assess progress in meeting goals.

RESEARCH

New worlds galore

NASA's Kepler space telescope has in one stroke more than doubled the list of planets it has discovered around other stars, thanks to a new method of validating signals of possible worlds. On 10 May, scientists confirmed the existence of 1,284 new

extrasolar planets from a pool of 4,302 candidates that Kepler has spotted since 2009. They include about 100 roughly Earth-sized bodies and nine planets in the habitable zones of their stars. The announcement raises the total number of confirmed extrasolar planets to 3,264. See go.nature.com/mxwalg for more.

Poor air quality

The vast majority of city dwellers in poorer countries endure unsafe levels of air pollution, according to an updated database released by the World Health Organization (WHO) on

12 May. In low- and middle-income countries, 98% of people in large cities that monitor outdoor pollution breathe air that exceeds the limits set by the WHO, according to the database, which now covers 3,000 towns and cities in 103 countries. Among megacities with more than 14 million people, Delhi, Cairo and Dhaka experienced the worst levels of pollution from fine particles, which increase the risk of stroke, heart disease, lung cancer and asthma. Globally, urban air pollution worsened by 8% between 2008 and 2013, despite improvements in Europe and the Americas.



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Porpoise on brink of extinction

The vaquita (*Phocoena sinus*), a porpoise unique to the Gulf of California off Mexico, could be extinct by 2022, according to a report released on 14 May by the International Committee for the Recovery of the Vaquita (CIRVA). On the basis of acoustic data from submarine recorders and a survey of the vaquita's entire range, CIRVA estimates that there are now fewer than 60 animals left. Its

dramatic decline of 92% in just under two decades is attributed to the use of gill nets in fishing. Mexico implemented a two-year gill-net ban in 2015, but some fishermen have continued to use the nets, resulting in the deaths of at least three vaquitas this year. At a meeting in Ensenada, Mexico, last week, CIRVA scientists called on the Mexican government to make the gill-net ban permanent.

FUNDING

Cosmic funding

The Simons Foundation in New York will contribute the majority of a US\$40-million donation to establish an observatory to look for primordial gravitational waves, the non-profit organization announced on 12 May. The Simons Observatory will scour the Universe's all-pervading background radiation for imprints of the waves. Finding them would provide evidence of a theorized period of rapid inflation in the moments after the Big Bang. (The BICEP2 experiment made a claim to

have discovered this imprint in 2014, but subsequently retracted it.) The telescopes will be built in Chile's Atacama Desert and aim to be around ten times more sensitive than any currently operating facility.

Funding rejig

Britain's seven research councils are to be brought together into one 'supercouncil', according to a government White Paper unveiled on 16 May. The overarching body will be called UK Research and Innovation, and will also include the agency Innovate UK and the research-funding portions of the Higher Education Funding Council for England. Under the plan, the agencies will retain their own identities and separate budgets. The plan also calls for the creation of an Office for Students to oversee higher education, and introduces the Teaching Excellence Framework, which will evaluate teaching at UK universities and allocate funding on the basis of quality.

PEOPLE

Ilkka Hanski dies

Researchers around the world have been paying tribute to Finnish ecologist Ilkka Hanski (pictured), who died on 10 May, aged 63. Hanski won the Crafoord



Prize in Biosciences from the Royal Swedish Academy of Sciences in 2011 for his work on how spatial variation affects animal and plant populations. In 1991, he founded the Metapopulation Research Centre at the University of Helsinki to study species in fragmented landscapes.

Academy head quits

Biochemist Wong Chi-huey resigned on 10 May as the head of Academia Sinica, Taiwan's foremost research institution. After initially rejecting Wong's resignation in March, Taiwan's President Ma Ying-jeou accepted it following a controversy over Wong's relationship with Taiwanese biotechnology company OBI Pharma. Wong's daughter reportedly sold shares in OBI before their value dropped following the release in February of disappointing results of a trial for a breast-cancer drug.

Wong denied any allegations of insider trading, saying that he had no advance knowledge of the trial results.

BUSINESS

Pharma deal

Pharmaceutical giant Pfizer announced a US\$5.2-billion deal on 16 May to acquire Anacor Pharmaceuticals of Palo Alto, California, which specializes in boron-based compounds. Pfizer cited crisaborole, an experimental drug for the treatment of eczema that is under review for approval by the US Food and Drug Administration, as Anacor's "flagship asset". In April, Pfizer scrapped plans for a \$160-billion merger with Dublin-based Allergan after the US treasury tightened up rules on companies moving their headquarters abroad to cut their tax bills.

Execution drugs

Drug multinational Pfizer will no longer sell drugs for use in executions by lethal injection, the company announced on 13 May. In banning the distribution of 7 drugs to correctional facilities, Pfizer joins 24 other companies that have ended such sales. "Pfizer makes its products to enhance and save the lives of the patients we serve," the company said in a

COMING UP

23–24 MAY

The biotechnology conference Big Data Leaders Europe takes place in London. go.nature.com/uchnje

24–26 MAY

The Thirty Meter Telescope Science Forum, the facility's annual planning meeting, gathers in Kyoto, Japan. go.nature.com/sbnhua

24 MAY

The 13th and 14th satellites of Europe's Galileo navigation system are due to launch from the Guiana Space Centre. go.nature.com/kqdwgk

statement. All the makers of such drugs that are approved by the US Food and Drug Administration have now halted sales for executions, according to the London-based group Reprieve, which campaigns against the death penalty.

Preprint purchase

The Social Science Research Network (SSRN), one of the world's most popular repositories of preprint research in economics, law and the social sciences, has been bought by academic-publishing giant Elsevier for an undisclosed sum. After the acquisition, which was announced on 17 May, the SSRN will continue to offer free submissions and downloads, said its chief executive, Gregg Gordon. Social Science Electronic Publishing, a private firm in Rochester, New York, founded the SSRN in 1994. See go.nature.com/5jnxqv for more.

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TREND WATCH

If current policies and regulations remain, energy-related carbon dioxide emissions may rise by 34% to 43 billion tonnes in 2040. In its *International Energy Outlook 2016*, released on 11 May, the US Energy Information Administration (EIA) projects that energy consumption will rise by 48% by 2040, spurred by growing demand in Asia. Although renewable energy is the fastest-growing energy sector, fossil fuels are likely to continue to supply more than three-quarters of the world's energy, the EIA said.

SOBERING OUTLOOK

Carbon dioxide emissions from fossil fuels will continue to rise for decades unless climate goals are pursued with a vengeance.

