

## NEWS

# Europe moves to secure its future energy supply

A sweeping proposal for a common energy policy for Europe, unveiled last week by the European Commission, calls for a radical shift towards a low-carbon economy. Although environmental campaigners have criticized the proposal for not going far enough, other experts say that the plan is much more ambitious and concrete than any suggested before.

The commission recommends a combination of regulatory and technological measures to secure the future energy supply of the European Union (EU) and to reduce the risk of dangerous climate change. It says that the package would help to cut the EU's greenhouse-gas emissions by at least 20% (compared with 1990 levels) by 2020.

The commission suggests that renewable energy sources in the EU should make up 20% of the overall energy mix by 2020. Energy generated from wind, solar and other renewable sources currently account for less than 7% of total energy consumption. The commission also calls for biofuels to provide at least 10% of the energy used by the transport sector by 2020.

Imported fossil fuels are projected to remain the main source of energy, however, and the proposed policy includes a commitment to

equip the next generation of coal-fired power plants with the technology to capture and store carbon dioxide, which would enable them to operate with low or zero greenhouse-gas emissions. It is the first time that the use of such technology has been proposed at such a high political level.

The report will be discussed by the EU's heads of state at a summit meeting in March. If approved, the recommendations must be translated into national law in all 27 member states.

Policy analysts doubt that all the proposed actions and targets will be accepted. But given the vagueness of previous reviews, experts say that they appreciate the concreteness and level of detail of the proposed changes.

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"We can improve our prospects for energy security and carbon emissions if these recommendations are followed through, even though it will be difficult to get agreement on all of them," says John Mitchell, an associate fellow with the energy environment and development programme at London-based Chatham House.

And the energy industry, although critical about some of the details, has welcomed the main thrust of the report. "We do know that our fossil future is limited," says a spokeswoman for

the Germany energy company RWE.

The most controversial part of the proposal may be the call for a single energy market within the EU. The report calls for trade barriers to be lifted and for the production of energy to be separated from its distribution, to increase competition and allow citizens to choose to buy 'green' energy if they want to as well as reducing dependence on any one source of energy. In the past, energy companies in Germany and France have blocked such moves, and they are expected to keep up their resistance.

## Palaeontology journal will 'fuel black market'

A controversial new 'amateur' palaeontology journal has angered academic researchers, who fear that the project will give a sheen of scientific legitimacy to the dealings of commercial fossil hunters.

The organizers of the *Journal of Palaeontological Sciences*, launched this month, say that it will publish details of privately held fossils, bringing them in from the "scientific darkness". But traditional palaeontologists say that the journal undermines the field and could fuel the black market in fossil specimens.

The journal is inviting anyone,

including commercial fossil hunters and keen amateur collectors, to publish details of their finds.

"Lurking in many private collections are valuable fossil treasures. This is the first journal that gives an outlet to the amateur and commercial palaeontologist to try their hand at writing a scientific article," says Ken Carpenter, a member of the journal's publication committee and curator of vertebrate palaeontology at the Denver Museum of Nature and Science in Colorado.

But academics are upset that the fossils will not be in the public domain, and will therefore be

unavailable for future study. "This is absolutely imperative in order for our science to exist," says Mark Goodwin at the University of California Museum of Paleontology in Berkeley.

Palaeontologists who publish their results in traditional journals, such as the *Journal of Vertebrate Paleontology*, agree to abide by a code of ethics, whereby they catalogue their specimens in a recognized repository, most often a national museum. Goodwin thinks that the new journal is an attempt to circumvent this practice.

The fears are fuelled by the fact that many of the fossils that change

hands in commercial deals do so on the black market. "Promotion of this online journal will encourage the commercialization of vertebrate palaeontology, which unfortunately results in increased illegal collecting activities on public lands in the United States, and the illegal trade and export of fossils from China, other regions of Asia, and the former Soviet Union," Goodwin argues.

Walter Stein, chair of the journal's publication committee and president of PaleoAdventures in Belle Fourche, South Dakota, disagrees. He thinks that some exposure for the privately held



A European report suggests fitting all new coal-fired power stations with carbon-capture technology.



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Energy and climate issues will be priorities for the EU in the first half of this year. They will also be on the agenda of the G8 meeting in June, and commission president José Manuel Barroso hopes that the firm commitment by the EU to cut greenhouse-gas emissions will provide a nucleus for an international agreement that is at least as ambitious. The Kyoto Protocol, which requires developed countries to cut their 1990-level emissions by an average of 5.5%, runs out in 2012. The commission believes that a renewed agreement should lead to an overall 30% cut in emissions from developed countries, including the United States, by 2020.

But given its stagnant population and economy, experts say it might be less painful for the EU to significantly cut emissions than for the more dynamic US market. "What the commission wants sounds good for Europe, but you must put yourself in other people's shoes," says Gibbins. "You can't go to international negotiations and demand more pain from others than from yourself."

Last week's commission report also contained a section on the costs of climate change, which argued that global warming must be limited to no more than 2 °C compared with pre-industrial levels if catastrophic consequences of warming are to be avoided. Among the projected consequences of inaction outlined in the report are reduced crop productivity in southern Europe compared with increased productivity in northern Europe, a greater number of heat-related deaths, damage due to flooding and negative impacts on tourism. ■

Quirin Schiermeier, with additional reporting by Lucy Odling-Smee

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The technology does not yet exist to achieve all the targets suggested by the commission. So the report says that investment in research into energy efficiency and clean energy, including nuclear power, should be increased by 50%. The commission plans to detail suggested research goals and spending in a separate plan to be released later this year. But it does say that up to 12 large-scale demonstration projects of different capture and storage technologies should be built by 2015.

Champions of carbon sequestration have

greeted the plan as a vital step towards setting climate-friendly performance standards for use of fossil fuels. But given the time it will take to develop the necessary technology, they urge policymakers to get cracking. "Time is of the essence," says Jonathan Gibbins, an energy engineer at Imperial College London. "The technology must be very strongly proven, which is why you cannot get on top of this too early." To meet the 2020 goal, he says that spending would need to be authorized within a year from now.



Fossil hunters can now publish without making their specimens available.

specimens is better for science than none at all, even if the fossils themselves remain behind closed doors. He adds that there will always be "ten per cent of academics we will never convince, who think we are only in it for the money".

In an apparent bid to deflect accusations that they are interested mainly in promoting commercialization of the field, the journal's publishers have changed their name from the American Association of Paleontological Suppliers to the Association of Applied Paleontological Sciences. The nine-member

publication committee will review submissions before drawing on a 22-member pool of potential peer reviewers. "If you can prove it, we will publish it," Stein says.

Goodwin says that the palaeontologists who have agreed

to review submissions "should be ashamed of themselves", adding that their efforts would be better spent encouraging private collectors who hold fossils to consider other means of allowing access and study. Donating fossils to a museum and enlisting the help of an academic researcher would ensure that the fossils can be studied in perpetuity, he argues. "When this occurs, science wins over greed."

Commercial fossil trading in the United States has its roots in the 1960s, when private landowners began to realize the potential value of fossils found on their property, causing academic researchers on tight grants to worry that they were being priced out of the field.

Typically, the owner of a property can expect to receive up to 25% of the sale value of a specimen, and some US landowners reportedly earn as much as \$25,000 a year from the practice. Many collectors also buy fossils as an investment, similar to dealing in artworks or antiques, which fuels the activities of commercial fossil brokers.

In a bid to confront these activities, the US government offers a tax deduction on individuals or estates who donate specimens to national museums. Many museums offer to make a high-quality cast in exchange for the genuine article, in a bid to encourage collectors to donate their treasures. ■  
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