

► this month. It will scrap a system that has favoured local recruitment, and make it easier for roughly 12,000 Greek scientists working abroad to return. The change may have come just in time: 25% of Greek universities' faculty members are due to retire in the next three years.

Under the law, each university will establish committees (including scientists from abroad) to oversee academic recruitment, which is currently decided by a faculty vote. The law will also modernize university governance, so that rectors will no longer be elected by university staff and students. Instead, a new board of directors will pick their university's rector after an international competition, and will have the power to fire the rector for poor performance.

The next few years will undoubtedly be extremely tough. Although the government says that it is determined to develop Greece's research base, it has not protected research funding in its austerity packages. And it is having trouble meeting its commitments to match research money that scientists have won from FP7. Greece is also negotiating deferrals of its contributions to international organizations such as the European particle-physics facility CERN, near Geneva in Switzerland, and the European Space Agency.

But the most competitive research labs should be sustained by more than €400 million expected to come from EU structural funds by the end of this year. And despite the turmoil, Pachnis is planning to leave the safe haven of his current post as head of the NIMR's neuroscience division to become director of the Institute of Molecular Biology and Biotechnology in Heraklion, Crete. The move offers scientific opportunities that are too good to pass up, he says, and he is confident that Greek science as a whole will survive. "If I can help keep the infrastructure afloat at one centre of excellence through this hard time," he says, "I'll be happy." ■



EU research commissioner Maire Geoghegan-Quinn (second from left) wants more money for innovation.

POLICY

Europe lines up hefty science-funding hike

Farm subsidies trimmed to enable a 45% rise for research.

BY COLIN MACILWAIN

Like many governing bodies, the European Union (EU) has entered an era of austerity, with one striking exception: scientific research. Under a proposal released on 29 June by the European Commission, the executive body of the EU, spending on research and innovation would rise by about 45%, from €55 billion (US\$80 billion) over the current 2007–13 period to €80 billion in 2014–20. A reduction in farm subsidies would help to pay for science, and spending in other major areas of the €1-trillion budget would remain flat (see 'Innovative thinking').

The proposal is a crucial milestone in a long and convoluted process that will eventually determine the size and format of the successor to the Seventh Framework Programme (FP7) — the EU's flagship research programme — to be called Horizon 2020. The proposal still needs to be agreed by the European Parliament and by member states. But it marks a success for the EU's research commissioner, Maire Geoghegan-Quinn, says Peter Tindemans, head of the science-policy working group at Euroscience, a science-advocacy group headquartered in Strasbourg, France. "She's managed to convince the other commissioners that where there's to be an increase at all, it should be in research."

Other research advocates say that the proposal — although falling short of the major realignment of funding priorities they had been hoping for — was as good as could be expected in the circumstances. "Given the times we're in, we couldn't realistically have

hoped for much more," says Dieter Imboden, president of Eurohorcs, the body representing Europe's national research agencies.

Geoghegan-Quinn told *Nature* that the proposal was "a big vote of confidence in science" but also called on researchers to push to get the proposal implemented — especially in their home countries. "The farmers will be out there lobbying, and scientists and researchers need to do the same," she says.

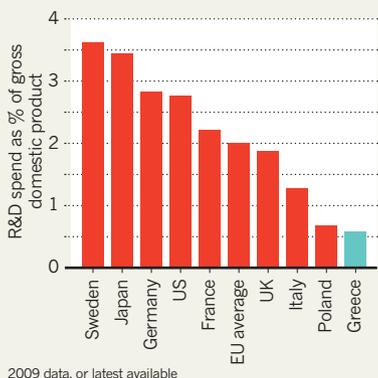
Commission officials say that the total EU budget for 2014–20 would be worth 5% more, in real terms, than that for 2007–13. The share for research and innovation would grow steadily, and eventually double, from 4.5% in 2007 to 9% by 2020.

The research proposal includes €4.5 billion that would be transferred from farm subsidies

SOURCE: EUROSTAT

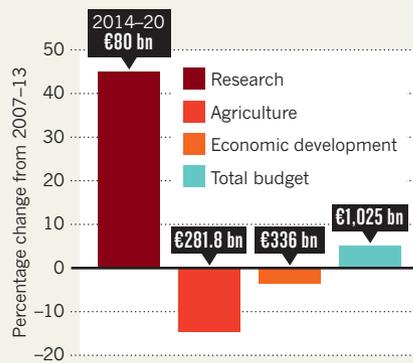
SPENDING GAP

Greece has one of the lowest science investment levels in Europe.



INNOVATIVE THINKING

European research funding looks set to grow in 2014–20 under the Horizon 2020 programme, but other budgets will shrink.



SOURCE: EUROPEAN COMMISSION

to pay for agriculture-related research. Although the share of the total budget consumed by the Common Agricultural Policy would fall by some 3%, to about 36%, several observers say that the commission was unable to win support for a more radical transfer of resources from farm subsidies. “The chance to make really big changes to the Common Agricultural Policy has been lost,” says Tindemans.

Geoghegan-Quinn says that there are three main pillars to the proposal: excellence in science, meeting ‘grand challenges’ such as food security, and improving competitiveness.

She says that a much stronger focus will be brought to bear on the grand challenges than before, driven by powerful committees called European Innovation Partnerships. The first such partnership, addressing ‘healthy ageing’, started earlier this year, and is going well, Geoghegan-Quinn says, with its board set to select about ten research priorities, and “push forward with them very quickly”.

Geoghegan-Quinn promises “quick decisions” this year on proposals for the management and structure of the European Research Council, the new and widely lauded component of FP7 that backs basic research, which will be released next week by a commission working group.

The commission’s proposal also says that future cost overruns on ITER, a giant nuclear-fusion experiment under construction in France, will have to be borne by member states, and will not come from the EU budget or fall on other research programmes.

The budget plan will now be scrutinized by the European Parliament and the Council of Ministers, representing the 27 EU member states, before emerging in final form by 2013. The parliament is widely expected to ask for even more funds for research and innovation, whereas many member states will seek cuts to this and other portions of the commission’s proposal.

Jerzy Langer, a physicist at the Polish Academy of Sciences in Warsaw and a close observer of European research policy, says that the outcome so far has been “very good” and indicated “huge determination at the very top” of the commission to support research. He predicted that even such member states as the United Kingdom — which has already said that the overall budget plan is too large — would back the proposed increases for research.

But Luke Georghiou, a policy expert at the University of Manchester, UK, says “it is extremely unlikely that the member states

will agree to anything exceeding this, so we should regard it as a ceiling” on the eventual research budget. ■

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NASA/JPL/UMD (ARTIST'S CONCEPT)

Deep Impact had a novice mission leader, but its comet encounter was a smashing success.

PLANETARY SCIENCE

NASA faces dearth of mission leaders

Experience gap looms large in next generation of principal investigators for Discovery programme.

BY ERIC HAND

When NASA invites proposals in 2013 for its next round of low-cost planetary missions, ideas are sure to be plentiful — but not the leaders crucial to the missions’ success. That’s the conclusion of a demographic analysis that shows that the number of highly qualified principal investigators (PIs) willing or able to take the driver’s seat in NASA’s Discovery-class missions is dwindling.

“We have to recognize that this is coming and this is a problem,” says Susan Niebur, who presented her analysis on 21 June at an international conference on low-cost missions at Johns Hopkins University’s Applied Physics Laboratory in Laurel, Maryland. As a cohort of former PIs nears retirement age, Niebur worries that burn out, budget overruns and missed launch windows will be the result if NASA doesn’t find a way to get younger scientists the experience they need to step up into mission-leading roles.

Niebur first encountered the dilemma between 2003 and 2006, when she was the NASA official charged with running the

fiercely competitive Discovery programme — the small, scientist-led planetary probes that are often the most innovative in NASA’s repertoire. At that time, she says, she kept getting proposals “from the same guys”.

Not that they were unqualified. On the contrary, they were precisely the sort of scientists NASA wanted in charge of spacecraft worth hundreds of millions of dollars — people who knew their science but had also dirtied their hands with instrument hardware and experienced the headaches of building a spacecraft. The problem was that there were so few of them — and they were getting older.

Now an independent consultant based in Silver Spring, Maryland, Niebur has been tracking the situation and says that it is getting worse. By 2015, when the winning proposal is chosen, there will be only 14 potential PIs aged 65 and under who have previously been PIs, deputy PIs or project scientists (see ‘Planetary shortfall’). This means that many of the roughly 30 proposals that the Discovery programme attracts at every round will be coming from relative rookies.

Started in 1992, Discovery came to ▶