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News

Fusion reactor set to raid Europe's research funds

€1.4-billion gap in ITER project could be plugged with Framework cash.

Geoff Brumfiel

European nations hope to divert more than a billion euros that were earmarked for research grants to make up a budget shortfall at the experimental ITER fusion reactor, *Nature* has learned.

The proposal has alarmed scientists, who say that it will rob researchers of vital funds at a time when governments are planning to scale back domestic research budgets in response to the global economic downturn. "I think it's a small catastrophe in the present situation," says Helga Nowotny, the president of the European Research Council, which funds research across Europe. "It's bad for European research," she says.

Based in the south of France, the ITER reactor will one day fuse hydrogen isotopes to produce energy. When the project was agreed in 2006, it was expected to cost €5 billion (US\$6 billion) to construct, but unofficial estimates now put ITER's price at around €15 billion (see **Financial meltdown imperils reactor**). As the largest contributor to the project, the European Union (EU) will have to pay €7.2 billion, far more than the original €2.7 billion it had initially expected. The most pressing problem is a €1.4-billion gap in the construction budget for 2012–13.

A tentative agreement reached on 25 June by Europe's 27 member states would fill most of that shortfall using cash from the EU's Seventh Framework Programme (FP7) for research, which is the main science-funding mechanism in Europe for 2007–13. FP7 has an overall budget of €50.5 billion and still has about €20 billion unspent.

The European Commission, the EU's executive body, still needs to work out the precise budgetary details with the member states, according to several independent sources. The commission is expected to fight the proposal, arguing that drawing so heavily on FP7 funds would damage other research goals.

In a memo on 4 May, the European Commission warned that taking the money needed for ITER from other parts of the research budget would have "a significantly negative effect on a range of policies and programmes". It asked member states to find more cash to help cover the deficit. But faced with a continent-wide financial crisis and pressure to cut government spending, the member states were unwilling to pay more. To find a way forward, the outgoing Spanish presidency of the EU formed an emergency task force, which has met weekly since mid-May and came up with the latest recommendation.

Find a compromise

Insiders say that it is highly likely that even if a compromise deal is struck between the member states and the commission, millions of euros for ITER will still come at the expense of unrelated fields including nanotechnology, health and renewable energy. "This will not make us friends," acknowledges one senior European fusion researcher, who declined to be identified, citing the continuing negotiations.

The European nations' proposal, a copy of which was seen by *Nature*, also calls for fusion scientists to find a further 8% in savings from the European portion of ITER. Assuming that the demands are met, the member states will commit to funding the project at its new price, allowing ITER's construction to move forward. Previously some nations, notably France and Germany, had mulled scaling back ITER, or even withdrawing from it altogether.

The way that the FP7 budget is apportioned means that the "programmes that have already been selected will not suffer", according to Achilles Mitsos, who was the director-general for research at the European Commission from 2000 to 2005 and was a negotiator on the ITER project. But FP7 would have difficulty absorbing the entire €1.4-billion cost, which might come at the expense of new projects and proposals, he



This artist's impression shows what the ITER reactor site will look like - if it can raise enough cash.

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says. Mitsos remains hopeful that unspent money from other parts of the EU's budget will be used to fill the spending gap.

Despite the budget problems, Mitsos predicts that the EU will continue to fully support ITER, because failure would incur heavy political and financial costs. "Europe cannot afford not to go forward with the project," he says. ITER's council hopes to agree a final plan at its next meeting, scheduled for late July. With that in place, the first ITER experiments could begin in late 2019.

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