

The original cost estimate for ITER was €5 billion (US\$7 billion) for construction and the same amount again to operate it for 20 years. But costs are rising and the schedule is growing ever more drawn out (see page 488). Educated guesses now put the construction costs at roughly €10 billion.

These guesses might be the closest that anyone will get to knowing ITER's true cost. The national agencies running the project are under no obligation to tell the central organization how much they are paying their industrial contractors for each piece of the reactor. Some countries might disclose the cost of the components they build, but others might well wish to keep their budgets secret — both to protect their nation's industry and to shield themselves from potential embarrassment. As long as the pieces are technically satisfactory, the central team must accept them, no questions asked.

This set-up may be good for the nuclear agencies running ITER, but it is deeply unfair to those who will ultimately pay for the project — around half of the world's taxpayers. These citizens have a right to know how much their countries are paying in the quest for fusion energy. The seven members of ITER should explicitly commit themselves to providing cost estimates for their in-kind contributions to

the project. The central organization should collect and review those estimates, and it should then make them available to the public, both individually and as a collective price tag.

If any members of ITER's council are unwilling to provide those data, then politicians should take up the issue. ITER is run by agencies that have to answer to political bodies such as parliaments. Where necessary, these groups should intercede to demand the publication of financial information about ITER.

A full financial disclosure could be painful. It is likely to show that the reactor is costing far more than originally promised and that some countries are paying more than others for the same components. Those revelations could lead the public to ask numerous questions — including whether fusion can deliver affordable electricity on a timescale that anyone could deem germane.

Such questions are difficult to answer, but they must be asked of every energy technology if humanity is to tackle the climate and energy challenges ahead. The only way to decide fusion's role in resolving these challenges is via an honest public debate. And that debate cannot take place without a transparent price tag for the world's first fusion reactor capable of producing net energy. ■

Media frenzy

A hyped-up fossil find highlights the potential dangers of publicity machines.

Last week's publication of paper describing a 47-million-year-old fossil primate with a remarkable degree of preservation (see <http://tinyurl.com/oycvo8>) prompted a trickle of news in *The Daily Mail* that quickly swelled to a flood of media coverage.

In normal circumstances, the interpretation of the specimen given in the paper (J. L. Franzen *et al.* *PLoS ONE* 4, e5723; 2009) would have been no more contentious than that of any other fossil primate, and a good deal less so than some. The fossil, called *Darwinius masillae*, represents a new species that seems to be closely related to other (albeit fragmentary) primate fossils found at the same site, near Messel, Germany. These belong to a group of extinct primates called adapids, which are generally considered to be more closely related to the sub-order containing lemurs and bushbabies (strepsirrhines) than to the one that includes higher primates and humans (haplorrhines). That suggests that the new species has little to do with human ancestry.

Indeed, in the paper the authors explicitly state that *Darwinius masillae* “could represent a stem group from which later anthropoid primates evolved, but we are not advocating this here, nor do we consider either *Darwinius* or adapoids to be anthropoids”. The authors also refrain from claiming that the fossil changes our understanding of primate evolution.

But the circumstances surrounding the paper's publication were anything but normal. Before the paper had even been submitted to the journal, Atlantic, a production company based in New York, had commissioned a television documentary and an accompanying book

about the find. Just a week after the paper appeared, the book has been published and the documentary has been aired on the History Channel in the United States, as well as Britain's BBC and Norway's NRK.

Both book and documentary include the the suggestive words ‘The Link’ in their titles. A press release associated with the New York press conference at which the fossil was first officially described claimed that the fossil represents revolutionary changes in understanding. The History Channel website calls the find a “human ancestor”, and the BBC website describes it as “our earliest ancestor”.

To be fair, the authors' claims at the press conference were appropriately measured. Nonetheless, the researchers were fully involved in the documentaries and the media campaign, which associate them with a drastic misrepresentation of their research.

Another damaging aspect of the events was the unavailability of the paper ahead of the press conference and initial media coverage. This prevented scientists other than those in the team from assessing the work and thereby ensuring that journalists could give a balanced account of the research.

There is no reason to think that *PLoS ONE*'s editors and reviewers did less than their duty to the paper. Nonetheless, the clock was ticking at the time of submission. *Nature* has over the years received occasional offers of papers associated with television documentaries, and the offers usually come with broadcast dates attached. Where the refereeing process might have been compromised, we have always said no to the paper. When time is tight, there is a risk that the broadcast will go out even if any problems uncovered by peer review cause the paper to be delayed or rejected.

In principle, there is no reason why science should not be accompanied by highly proactive publicity machines. But in practice, such arrangements introduce conflicting incentives that can all too easily undermine the process of the assessment and communication of science. ■