

Brussels, 13 May 2003

## Europe moves into position to host ITER

*Today in Brussels Philippe Busquin, the member of the European Commission responsible for research, gave the Council of Ministers a progress report on the negotiations concerning construction and operation of ITER, the international fusion energy demonstration project. The communication from the Commission<sup>1</sup> addresses the question of the choice of a site in Europe (Cadarache in France or Vandellòs in Spain) and the situation now that China and the USA have joined. Russia, Canada and Japan are also participating in this international project. Canada and Japan have each offered a site. The international agreement to launch the operational phase of ITER, including selection of the site and the cost-sharing arrangements, is due to be concluded by the end of 2003. To create the best conditions for negotiating this agreement and give Europe the best chance of siting ITER, the Union must now agree on a single European candidate site. To help to achieve this, the Commission will be setting up a group of high-level experts to give a technical opinion taking account of every dimension.*

"Europe's fusion research has a solid foundation, with firmly established networks of excellence. We must give ourselves the best chance to build ITER in Europe. The task facing us now is to rally together, in a carefully controlled consensus-building process, to select the EU's candidate site," Philippe Busquin explained.

### Consensus-building

France and Spain are being urged to pursue their bilateral discussions. To help to bring the views closer together, the EU is preparing to identify the building blocks for a consensus taking account of dimensions other than the purely technical aspects, in direct consultation and cooperation with the authorities in the countries concerned.

The ministers also discussed the organisational structures planned to manage the European Union's contribution to ITER, such as the joint undertaking to run ITER, along with the importance to Europe of conducting a parallel scientific and technical support programme.

### Objective criteria

The Commission plans to establish objective criteria covering, inter alia, the questions of site preparation and the scientific, technical and social environment, particularly the political, financial and administrative guarantees that the site and its surroundings can be prepared within the deadlines laid down and that the regulatory authorities will be in a position to issue the necessary permits in good time.

---

<sup>1</sup> COM(2003) 215 final.

These criteria will be established in agreement with the Member States. The next stage in the process will be to draw on the expertise needed to create the best chance that, in the end, ITER will be built in Europe. The Commission proposes to consult high-level scientists on these issues. A consensus will probably be reached only on the basis of an agreement at a high political level which will cover the choice of the site and the arrangements for sharing costs and responsibilities between the international partners.

### **Countdown**

The end of 2003 is the target date set for the international negotiators to produce a draft agreement on implementation of ITER, including the site and the financial contributions from each partner:

- end of May 2003: announcement of the additional objective criteria guaranteeing that the sites proposed actually meet the requirements laid down;
- summer 2003: completion of the consensus-building process described above;
- end of 2003: submission of a proposal by the EU on the agreement on the construction, operation and decommissioning of ITER.

For further information consult the following websites:

[http://europa.eu.int/comm/research/energy/fu/fu\\_en.html](http://europa.eu.int/comm/research/energy/fu/fu_en.html)

<http://www.iter.org/>

## What is energy from nuclear fusion?

Research in the field of fusion has been going on for 50 years and recent progress has intensified interest in this technology. Fusion is a process which generates energy in the same way as the sun and other stars. It is called "fusion" because energy is produced by fusing together light atoms such as hydrogen. Fusion would therefore be a new sustainable source of energy, potentially unlimited, without emitting greenhouse gases.

### At the very core of matter

ITER will have to demonstrate the scientific and technical feasibility of fusion energy for peaceful purposes. In order to do this, ITER will have to attain, study and control a particular state of matter ("plasma") from which fusion power of about 500 million watts will be released.

For the first time ever, this power will greatly exceed, by a factor 10, the power injected into the plasma. ITER will also have to carry out experiments with components and technologies that are essential for a future industrial reactor and demonstrate their integration within one installation.

## Ready for the future of energy

International cooperation on ITER was launched in 1987. ITER was designed and the key prototype components constructed in 2001. In November 2001, negotiations were started to jointly implement the project, regarding its location, how costs and responsibilities of supply will be shared, and the way in which it will be managed and run. Currently, the participants in the negotiations are Canada, the European Union, Japan, the Russian Federation, the United States and the People's Republic of China.

## Project costs

For the construction of ITER, €4.7 billion will be needed over a period of ten years and operating it will require approximately the same amount over twenty years. The total costs of building and operating ITER would therefore amount to about €10 billion over 30 years.

For the period 2003-2006, the European Union has earmarked the total sum of €750 million for research into nuclear fusion. This represents the larger part of the €1.25 billion budget of the EU's Euratom framework programme.

## Site

At present, four sites are being proposed, one by Canada, one by Japan and two in Europe, namely Cadarache in France and Vandellòs in Spain. The technical studies of these different sites have been completed and the evaluation report was approved by the negotiators in February 2003<sup>2</sup>.

---

<sup>2</sup> The evaluation report consisting of the fact-finding reports pertaining to each of the four sites proposed and the final report which provides a summary of these is available on the website

Despite objective differences in geographic location and the infrastructure to be developed, none of the four sites has a decisive technical advantage over the others and the report confirms that each of them could meet the technical criteria required to host ITER. Accordingly, the site will be selected through a political decision which should be based on a range of additional technical and economic considerations (in particular, estimates of construction and operational costs).

The Commission will consult the high scientific officials responsible on these issues. It intends to draw up objective criteria in consultation with the Member States by the end of May 2003. The process that will follow on from this will make use of the necessary expertise to optimise the chances to finally realise ITER in Europe with the aim of contributing to reaching consensus by September 2003.