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FRANCE:

Doubts Rise Over the Great Nuclear Promise

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PARIS, Jul 12 (IPS) - The euphoria over a decision to base the International Thermonuclear Experimental Reactor (ITER) in France seems to be evaporating. What remains is a growing doubt over the feasibility and cost of the project.

The project seeks to introduce new nuclear technology. It will seek a nuclear fusion of two hydrogen isotopes (deuterium which exists abundantly in nature, and tritium, a synthetic isotope) to produce helium with massive release of energy to produce electricity.

The ITER is an international project co-financed by China, the European Union, Japan, Korea, Russia and the United States under the auspices of the International Atomic Energy Agency. It is scheduled to be operative by 2016.

An international commission announced last month that the ITER would be set up at the French nuclear research centre Cadarache in Provence, 900km south of Paris.

French President Jacques Chirac called the decision to base the project in France "an enormous success" because the project "opens the way for technology essential in the search for alternative energy sources to counter global warming."

The daily Le Parisien greeted the announcement as "good news for France, at last." Most French newspapers welcomed the decision.

But scientists and environmental groups are warning that the ITER would drain resources that could fund the search for better alternative energy sources. The project itself, they say, brings no guarantee of success in the immediate future.

Former minister for science and technology Claude Allegre, also a renowned researcher in geochemistry, described the ITER as "just another prestige project" with "very few chances of success."

The estimated 12 billion dollars needed for the project will drain resources from other research projects "certainly more urgent than the ITER," he said. Just the construction is expected to cost more than 5 billion dollars. France has promised to pay half the cost.

The ITER at Cadarache will be a research reactor. If the technology proves promising, a first working thermonuclear reactor could get going some time after 2050.

The reactor will introduce brave new technology. Officials say the fusion at the plant would take place around 100 million degrees Celsius. The plant would seek to produce 500 megawatts (MW) of power.

The temperatures alone are a problem because no known material can resist such heat. "The official announcements describe the ITER processes as putting the energy of the stars in a box," says Sébastien Balibar, professor of nuclear physics at the prestigious Paris- based École Normale Superieure. "The problem is, we do not know how to build the box."

Balibar and his colleagues Yves Pomeau and Jacques Treiner said in a paper published last year in Le Monde that a thermonuclear reactor poses three technical problems: production of the elements to undergo fusion (deuterium and tritium), their resistance to fusion, and control of this reaction. The scientists said that the ITER project is only interested in the last, "and ignores the other two, the solution of which, nevertheless, is essential."

Edouard Brézin, president of the French Academy of Sciences, says expectations of the ITER are overly optimistic. "We need to be extremely confident in scientific development to believe that the industrial use of nuclear fusion will be ready in less than 50 years," Brézin told IPS.

Research in this technology should continue, he said, but "fossil combustibles and global warming are urgent problems, and we do not have 50 years to find solutions for them. We need urgent measures, and the ITER should not drain resources from this research."

Stephane Lhomme from the anti-nuclear group Sortir du nucléaire ('Get rid of nuclear power') told IPS that the ITER represents a dangerous technology without a future.

It is probable that the ITER will never produce energy, Lhomme said. The French government had invested almost 9 billion dollars in the nuclear reactor Superphénix before deciding to close it down in 1998, he said. The Superphénix never generated a watt of power.

"The ITER will certainly be connected to the French electricity network, but only to get power for its functioning," Lhomme said. (END/2005)

Related Web Sites

ITER (http://www.iter.org)

Sortir du nucléaire (http://www.sortirdunucleaire.org/)

http://www.ipsnews.net/news.asp?idnews=29461