Nations Agree to Build Fusion Reactor

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BRUSSELS, Belgium -- The European Union, the United States, Japan, China, Russia and others initialed a $12.8 billion agreement Wednesday to build an experimental fusion project they hope will lead to a cheaper, safer, cleaner and endless source of energy.

The seven-party consortium, which also includes India and South Korea, agreed last year to build the International Thermonuclear Experimental Reactor, or ITER, in Cadarache, in the southern French region of Provence.

The consortium hopes to develop the new technology saying it will help move away from the global dependency on fossil fuels and nuclear power.

Fusion reproduces the sun's power source and produces no greenhouse gas emissions and only low levels of radioactive waste.

"We represent more than half of the world's population, and recognize that by working together today we stand a much better chance of tackling the challenges of tomorrow, so energy is an issue of concern for all of us," said EU Science and Research Commissioner Janez Potocnik after the ceremony.

He said participants will aim to ratify their agreement before the end of the year so construction on the facility can start in 2007. Officials said the experimental reactor will take about eight years to build.

The EU is to pay about half the cost to build the experimental reactor, with the six other parties contributing 10 percent each.

If all goes well with the experimental reactor, officials hope to set up a demonstration power plant in Cadarache around 2040. Officials project that 10 percent to 20 percent of the world's energy could come from fusion by the end of the century.

Environmental groups slammed the project as "ill-judged and irresponsible," saying there was no guarantee that the expense would result in a commercially viable energy source.

"Investment in energy efficiency and renewables is the only reliable way to guarantee energy security," said Silvia Hermann, from Friends of the Earth Europe.

The European Commission said the investment was justified, adding that the technology used in such fusion reactor plants would be "inherently safe, with no possibility of meltdown, or runaway reactions."
The EU head office said the fuel consumption of a fusion power station would be lower than present day coal-fired power plants, which emit harmful emissions that damage the environment.

The EU has also said that the Cadarache site will boost Europe's role in developing new technologies and is likely to create about 10,000 jobs.

The consortium had been divided over where to put the test reactor, and competition was intense. Russia, China and the European Union wanted it at Cadarache, while Japan, the United States and South Korea wanted the facility built at Rokkasho in northern Japan.

Tokyo backed down after agreeing to a bigger role in research and operations.

Cadarache already houses one of the biggest civil nuclear research centers in Europe.

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