India links ITER pact with six countries

It's a very expensive diversionary science without real scientific underpinnings.

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Brussels: India took another major step Wednesday in its quest for energy security by signing up with six partner countries here for the ITER (International Thermonuclear Energy Reactor) research project.

"This signifies the start of a major international effort towards developing an energy technologic which provides virtually limitless energy," Anil Kakodkar, secretary in the Department of Atomic Energy and chairman of the Atomic Energy Commission, said after initialling the agreement on India's behalf.

The other signatories are the European Union, Russia, China, Japan, South Korea and the US.

According to Kakodkar, "energy is an issue for the whole world but it is much more crucial for the developing world, particularly for India which has one-sixth of the world's population".

Kakodkar said the "programme has potential to provide access to a much larger quantum of energy," for India's galloping energy needs.

"Even if we are talking about 5,000 kilowatt hour per capita per year, which is nothing compared to the per capita energy consumption of Europe, even this very modest target would mean enhancing the electricity consumption in India by a factor of 11 or 12," the scientist added.

India is contributing 10 percent in the form of manufacturing equipment to the ITER project, situated in Cadarache, France.

The Project is expected to produce nuclear fusion energy - fusion that occurs in the sun and the stars - in conditions that will demonstrate the scientific and technological feasibility of fusion as an energy source.

Fusion has several attractions as a large-scale energy source such as the abundance of basic fuels, no greenhouse gas emissions and no long lasting radioactive waste that can be passed on to future generations.

P.K. Kaw, director of the Institute for Plasma Research who was also representing the Indian side, said India based industries would manufacture components for ITER such as the key configurations and other high-tech heating sources and diagnostic equipment.

The ITER project is expected to start in 2007 and be completed in 2015, after which experiments will be conducted. It is expected to become commercially viable by 2040.

"By 2025 we will have sustained fusion reactors. After that we will have to design and develop demonstration reactors which will eventually produce commercial power," Kaw explained.

Referring to India's contribution, he added: "We also have access to the other 90 percent of the work done elsewhere. This will get our scientists and engineers trained in those ways also. So it is hoped that by the end of the ITER project our scientists and engineers will know how to make fusion reactors ourselves."

R.B. Grover, director of the Strategic Planning Group in India's Department of Atomic Energy, stressed ITER's significance, saying "this is scientific break-through for half the world".

European Union Commissioner for Science and Research Janez Potocnik told journalists: "We are making history in two ways. We have made a historical decision in the search of potential energy for the future and we have also made a historical decision about global cooperation the world has never seen until now."

Asked about India's rapport with its six other partners, Kaw replied: "The experience has been very rewarding and we have been welcomed with open arms. We have been given lots of support. Nothing was kept away from us".

India was the last member to join the ITER project following the establishment of a joint EU-India energy panel set up to address issues of energy security and alternative energy resources.

India and the six other ITER partners make up more than half of the world's population.

Every country besides the EU has contributed 10 percent to the ITER project while the EU will finance about 50 percent of its cost estimated to be five billion euros.