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The Show that demystifies Economics

The ITER Project ©

by Max Farrington and Michael Hirsch

The ITER Project, or International Thermonuclear Experimental Reactor, is the biggest scientific project of all time, in both cost and benefits. This is an international project funded and run by the European Union, the United States, China, Japan, India, South Korea and Russia. The research center is being built in Cadarache, in the south of France.

Why is this €50 billion project attracting all the wealthiest countries in the world? Well, it's because this project has enormous potential as an alternative supply of energy. The idea is that ITER will be able to create a nearly limitless energy source. For 500 MW produced, only 50 MW will be needed. We will not look too much into the technical side, but basically the idea is to heat gas to 150 million degrees in a massive steel frame using giant magnets, creating nuclear fusion.

Today, we already use nuclear power, and this will also be a type of nuclear reactor. The difference is that this one will use nuclear fusion as the energy source whereas today's energy comes from nuclear fission. These new reactors will be much less dangerous than the current ones because there is no meltdown risk and they will produce only minimal amounts of nuclear waste.

The reason so many countries are participating is because this will be as close to an infinite supply of energy as it is currently possible to achieve. The first phase, the groundwork, of the research center was finished after 4 years of construction. The second phase, which has now started, will see the construction of the seven-story building that will house the first reactor. This will only be a research center and not an actual nuclear fusion power plant. However, there is still time ahead of us, as the very first test should be conducted in 2020, and regular tests should then be carried out by 2026, 11 years later than proposed in the original schedule.

This is not the only complication with the ITER project. The budget was originally €10 billion, then in 2010 the total price of construction was expected to be in excess of €15 billion. Ever since, the price has been steadily increasing. Most scientists believe the total cost, when completed, will be around €50 billion.

The project has raised many concerns. The French Nobel laureate in physics, Pierre-Gilles de Gennes said of nuclear fusion, "We say that we'll put the sun into a box. The idea is pretty, however, the problem is: we don't know how to make the box". He raised an

interesting fact that the actual gas at 150 million degrees will damage the frame. This is one of the reasons why ITER has been delayed.

The project has also attracted criticism from Robert Bussard and Eric Lerner, scientists, who claim that ITER is polarizing huge amounts of money that could be put to better use in more viable and cost effective reactors like the Polywell reactor. Finally, several anti-nuclear groups are criticizing the research itself, saying it is an absolute hazard, as scientists don't really know what they are actually dealing with.