



# An Experiment to Save the World

In pursuit of the power at the heart of the sun

*The project could scarcely be more ambitious. If successful, it could herald a world of endless, cheap energy, available to all – not to mention the Nobel Prize...*

## DID YOU KNOW?

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## Science

**UK TX Date: 17/02/2005**

**BBC TWO**

**1 x 50 minutes**

Fusion is what has kept the sun burning for billions of years. It involves combining two atomic nuclei, usually heavy forms of hydrogen known as 'deuterium'. During the reaction, huge amounts of energy are released, but without the radioactive by-products of conventional nuclear reactors. If this could be achieved on Earth, it would transform our world. Overnight, there would be no need for fossil fuels, no more global warming, no reliance on oil. Instead there would be an almost limitless source of clean, green power.

For 40 years, scientists have pursued this 'Holy Grail', at a cost of billions of pounds and many shattered reputations. Most famously, in 1988, Fleischmann and Pons stunned the world by announcing that they had achieved nuclear fusion in a lab with just a few £s worth of equipment. They called it 'cold fusion'. For one tantalising moment, it seemed that the answer had been found. But the dream turned out to be a mirage. 'Cold fusion' was branded the scientific blunder of the century. Fleischmann and Pons were discredited.

Then last year, American scientist Rusi Taleyarkahn, then of Oak Ridge National Laboratories, claimed to have found a new way to make nuclear fusion in a laboratory – using sound waves. His work was published in that most prestigious journal, *Science*. However, almost immediately the doubters began sniping. They said it simply could not be true. Taleyarkahn remains adamant.

The only way to find out if he is right is to try to replicate his results. And so, in a groundbreaking piece of television, *Horizon* has commissioned Professor Seth Putterman of UCLA to put Taleyarkahn's work to the test. If this exclusive experiment reproduces Taleyarkahn's results, a Nobel Prize beckons. If not, then it is back to square one...

As well as revealing the results, this film combines excitement, tension and a stunning CGI vision of what the world will be like if fusion is eventually achieved.

## Production

Producer

**Colin Murray**

Series Editor

**Matthew Barrett**

## Ratings

	Time	Channel	Viewers	Audience Share
<i>Horizon</i>	21.00	BBC2	1.8 million	8%
<i>Judge John Deed</i>	20.00	BBC1	6.7 million	27%
<i>Fat Friends</i>	21.00	ITV1	6.8 million	30%
<i>English Civil War</i>	21.00	C4	1.3 million	6%
<i>EUFA Cup Football</i>	19.30	C5	2.3 million	9%

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