

Aftenposten

English Translation Provided By Google Translate

Norwegian Newspaper Introduces Cold Fusion By Featuring Brillouin Energy

Aftenposten, September 12, 2015

By PER KRISTIAN Bjørkeng – www.AFTENPOSTEN.no

Is energy cold fusion just wishful thinking, or climate revolution world crave? Research says not to spend money. Physicists believe the phenomenon could not possibly exist. The question of cold fusion exists, and it is about to become a science thriller of the rare.

Mankind could not have existed if cold fusion were possible.

Professor of Nuclear Physics at the University of Bergen, Dieter Röhrich says that this is not something he believes. It is a fact, that it cannot be questioned. But other specialists say that he and most of his colleagues are not open to indisputable experimental data.

A long series of experiments show that there still exists possibly an energy source as claimed in physics current theories should be completely impossible. It pointed out among others physicist Bo Høistad at Uppsala University told Aftenposten before summer, although he also points out that conclusive evidence currently is missing.

Climate Crisis Solution

When Aftenposten first wrote about cold fusion, also called LENR (Low Energy Nuclear Reaction), this startling new nuclear energy was going to provide the world with unlimited energy, without the need for fuel of importance and without harmful emissions.

Defense Research believes the technology is so interesting that you have to examine it further. They thus keeps the door ajar, yet some of their own scientists believe the technology is fiction. Aftenposten wrote before summer about the inventor Andrea Rossi, who says that he has come so far that the technology is already being tested at a secret US customer. An independent, anonymous scientific source has visited the project and confirmed to Aftenposten that it exists.

During the summer, Rossi arrived with several unverified claims that the test reactor and a new type of reactor was performing even better than anticipated. The secret client already underway, would reportedly run the experiment for a year to see if the energy outputs to inputs actually measure up. Half a year has now passed. Rossi has a history of optimistic statements that have proven to be too optimistic. But he can also enjoy the fact that he was granted his first patent on his invention in the United States in late August.

An independent survey of Emeritus George H Miley at the University of Illinois reported at a conference sponsored by NASA on progress in its work to develop LENR as an energy source in spaceships.

After we wrote about the case last, Aftenposten been advised that the Silicon Valley-based cold fusion-enterprise Brillouin Energy has been in Norway. The company has had meetings with politicians and several large Norwegian companies, including the boiler manufacturer OSO hotwater. The small Norwegian company, Black Swan Technology is working to get investors to Brillouin Energy. They offer prospective investors the opportunity to travel to Brillouin's lab in Berkeley, so they can witness what they believe is evidence of cold fusion.

We call us for technical mediators between investor and inventor. Cold fusion has the potential to be a "game changer" for the world, says Ronny Korsberg in Black Swan Innovation. Is he right?

Unlike Andrea Rossi, Brillouin Energy answers questions from journalists. Via Skype Aftenposten interview company founder and inventor Robert Godes in the company's laboratory in California. The company has been working since he founded it in 2009, and has so far raised millions from investors for its development. Now they are looking for more.

Adventurous Potential

In new documentation, Brillouin Energy claims that the results they have seen, means that it is possible to recover energy enough for a city with 30,000 inhabitants in one year from just a glass of water. When we talk with Robert Godes, he is in no doubt that the effect he bases the company's work is real. But it is not enough. It must also be commercially operable, and it is this task the company is now working toward.

Brillouin Energy's technology relies on you to send an electromagnetic pulse into a pressure chamber containing water and a nickel lattice. According Godes' hypothesis, the water thus converted into hydrogen and oxygen by normal electrolysis. Then the hydrogen goes through a

nuclear reaction with several steps converting to helium. In connection with this release is an enormous amount of energy per. helium atom. The energy density is so high that no chemical reaction is near to be able to generate as much energy.

Since the process requires electricity, an apparatus needs to emit at least 2-to-3 times as much energy as it uses in order to be commercially viable. Otherwise, the reactor is too expensive to build and operate. Brillouin Energy now claims to have received independent confirmation of both two and four times as much energy output from its two different technologies. The hope is to have a product ready for commercialization by industry partners during 2016.

The big difference between Rossi and Brillouin Energy is that Godes uses electromagnetic pulses to initiate the same process. This Q-Pulse enables the process to be turned on instantly with a single button, while this is not possible with Rossi.

Brillouin Energy's reactor systems are designed to stand for years without human supervision. One of the company's first commercial objectives is to create a water heater that can operate with very little supply of energy. The company expects that the price initially will be 2-3 times higher than a conventional heater, but will pay off with much lower energy costs.

In the longer term parts of excess heat from a reactor could be used to generate electricity then fed into the reactor: Thus, the mechanism could be virtually self-driving. That's how the company envisions that energy from hydrogen in a glass of water is enough to supply an entire city with 30,000 inhabitants in an entire year. So great is namely the energy density of hydrogen, if one can exploit nuclear energy that occurs when one merges hydrogen into helium.

"The biggest hurdle now is finding materials and processes that make it possible to produce cold fusion commercially. Unfortunately, this requires a lot of money. So the main reason why it is slow, is that we lack capital. We hope we can do it with five million US dollars, but it may also require 20 million," says Godes.

His finance director, David Firshein, wants enough that the technology was already ready for commercialization, but interrupts the interview to moderate.

"It is important that your readers understand that we are not currently claiming that we are ready for commercialization. What we do is very exciting, and we believe in it intensely, but realistically we are at least a year away from commercialization," said Firshein.

In the established scientific community there is great skepticism about everything reminiscent of cold fusion. Aftenposten has tried to get comment from leading Norwegian nuclear scientists, but has been rejected by several that this is not worth the time, energy or statements on. They wonder not whether cold fusion might be commercially viable or not, however their perspective is that the phenomenon is completely impossible, both in practice and in theory.

Several physicists would not at all have their names mentioned in connection with the case. Professor Dieter Röhrich at the University of Bergen is the exception.

“Show me the scientific articles and data supplied, then I'll look at them,” he says when we call. Both Brillouin Energy and several others have lists of scientific articles published about the phenomenon. Two days later we are on the wire again to hear what he has found.

“I would not call these papers normal scientific articles. I've looked at the theory of Robert Godes. It does not make sense at all. The concepts that Godes discusses do exist in physics, but he takes them out of context and combines them in a strange, speculative and incorrect manner. In physics, we have no indications that the free protons are unstable, as he describes them. Whether he was right in that protons so easily converted to helium, the world would be full of helium,” the professor points out.

Röhrich shows that about 73 percent of the known universe consisting of hydrogen and helium constitute around 25 percent. Most of the helium was produced in the first few minutes after the Big Bang, and today production is divided between stars like our sun.

“All energy states that can be produced in a lab in Silicon Valley have already existed countless times earlier in the universe's history. Not only in stars, but also for example Jupiter, whose inner core consists of liquid metallic hydrogen, or volcanoes on Earth. So if this had been correct, would the bulk of the universe been helium and there would have been plenty of helium in the crust. If so, there could neither be humanity or the universe as we know it. But there is almost no helium on Earth,” says Professor Dieter Röhrich at the University of Bergen.

Röhrich has also gone through the background of all the researchers involved and their published articles which all suggest that LENR is a reality. Robert Godes is not a scientist, but an engineer with a bachelor's degree. But several scientists with doctorates have published articles with results suggesting that LENR works.

“You need solid physics background and preferably decades of research to understand the interaction between cores. Most of those who have published something, have a background in chemistry. I acknowledge that there are few physicists who endorse LENR, but there are black sheep everywhere. I would not spent a penny on research in this field,” he said.

If it is as impossible as you say, how do you explain why so many experts worldwide are working on it to the tune of attracting tens of millions of private investor dollars, gathering for annual conferences and publishing scientific papers?

“It does not involve fraud. I think these people are hardworking and well-intentioned. You should at least look at what they have to contribute. We call it bias (in English "bias" journ.anm.). Therefore, we in the established scientific community control mechanisms such as peer review, and experimental results are cross-checked by competitors. As a scientist, you always have the hypotheses you want to prove. It is easy to unconsciously set the experiments so that they provide a desired result. You gladly ignore the facts by looking at them as a mistake, and then just continue. If, as in this case, you feel that you can save humanity with your research, you will be especially vulnerable to this mechanism. They try, so therefore they are not cheating, it's just our human nature that works so,” says Röhrich.

Brillouin Energy rejects criticism

“If it had been easy to create LENR, Röhrich would be entitled to his argument that the universe should consist of mostly helium. But to initiate the LENR process requires very specific circumstances that do not exist everywhere. Ask anyone if they can build a pulse generator as ours, says Godes”

On criticism that it must be about bias, Godes replied: “This is wishful thinking from Röhrich. Stable operation with 3-4 times more energy yield than what we submit, that has been confirmed by independent reports, is not a measurement error. It is sad that such people say that science should be driven by data and results, but at the same time refuse to look at the actual results,” says Godes.

The big question now is whether LENR research will be recorded as a more accepted part of science. Obviously, there are very strong and competent forces that are fighting such recognition.

However, not all physicists are on Röhrich's side. Physicist Bo Høistad at Uppsala University has even measured attempts to Rossi, and confirms that both seem to arise inexplicable strong energy, and that isotopendringer occur.

The latter cannot be explained otherwise than that it takes some hitherto unknown nuclear reaction - unless measurements are made mistakes. Meanwhile, no LENR-trailer any explanation of why LENR experiments do not emit any radiation, although physical theory suggests that the reaction MUST lead to radiation.

Another who has gone from being skeptical to open that something unknown happens, is the Swedish professor Hanno Essén. He is the former head of the Swedish skeptic association, and thus difficult to accuse of being uncritical. Nevertheless, he has been involved in documenting that a nuclear reaction takes place by cold fusion.

Many Norwegian professionals interested

Norwegian Academy of Technological Sciences and Tekna has already arranged a well-attended seminar on LENR, with 50-60 participants. Research Director Jan Ivar Botnan Defence Research has initiated investigations by reviewing literature and sending people to conferences, and believes that the results from overseas is so promising that the Research should focus on the field.

Research requesting transparency

When Aftenposten attempts to Research in speech, the following statement from the president in an email: "We have received some project applications on technology involving cold fusion. They have, as all applications we receive, been considered by committees made up of outstanding scientists in the field. There is very strong competition for funds and none of the applications related to cold fusion have been found strong enough to receive support. When it comes to cold fusion itself, is the scientific basis for a possible cold fusion unresolved. Now, both the scientific community and the Research Council to be open for that big surprises can happen. The history of science is full of surprises and also spectacular miscalculations, but so far it will not be prioritized as a separate industry," says Arvid Hallén, CEO of Research.

A number of professionals outside the physics community have followed through on LENR recent years. One of them is Professor Emeritus Hans Haakon Faanes at NTNU. He had a professional

career studying electricity and has served on the Statkraft board and does not have much time to spare for physicists like Röhrich and their rejection of LENR.

“I'm from society of professionals, but I have read reports and see that there's more energy out than in, and that it is registered element changes. This is the definition of the nuclear reaction. It is quite clear that the physicists are right that it lacks a theory to explain what is happening. But whoever finds it, they should prepare to go to Stockholm to receive the Nobel Prize. Fortunately initiated initial attempt FFI. You might be able to invite the skeptics there. But they will probably not attend. Galilei invited in his time the gentlemen to see the star the telescope but they did not see. About LENR is a reality, it is a discovery on par with the hero, quite large in world history,” he said.

Interest in Parliament

Among those who have been interested in the case in Norway is Nikolai Astrup, the Conservative energy and environmental policy spokesman that held a meeting with Brillouin Energy in Parliament.

“I've got with me that many believe cold fusion is a dream castle. I am not able to say anything about the debate. Scientists must determine its fate. I would not today stake everything on the development that cold fusion will succeed but in the struggle to find future solutions, we have to work with many different solutions in parallel. Which ones will hit the jackpot, it is too early to say anything about. If cold fusion works, it will clearly have global significance,” Astrup said.

About Brillouin Energy

Brillouin Energy is a clean-technology company based in Berkeley, California, which is developing, in collaboration with Stanford Research International (SRI), an ultra-clean, low-cost, renewable energy technology that is capable of producing commercially useful amounts of thermal energy from LENR.

Brillouin Energy's technology includes a proprietary method of electrical stimulation of nickel metal conductors using its unique Q-Pulse™ control system. The process stimulates the system to generate LENR reactions, which generates excess heat. The excess heat produced is a product of hydrogen and a nickel metal lattice. Other than the heat output, there are no (zero) toxic or CO2 emissions of any kind.