The Energy Group

Fusion Power

Project C – MDE

http://www.bazaarmodel.net

The Energy Group – *Fusion Power*

The prime focus for the first four years will be mainly promoting fusion energy research (budget increase for fusion research). Hopefully in the near future, Chemically Assisted Nuclear Reactions [1] could supply the Matter Group setup (Hypercomputer and the Atom Lasers) with energy. Hot fusion is use full for powering huge electric infrastructures like a countries industry, homes etc. The amount of energy that a Z Machine can generate is so huge that the demand of energy on this planet should increase 80 times to absorb all the energy generated by the Z Machine. Energy would be 'free' (supply 80 times greater than demand).

Unfortunately the amount of funds that is invested in fusion energy research is low compared with other types of energy research. The past year (2002) 60 billion euro was invested in fossil fuels research and 6 Billion euro in 'green' energy research (solar energy, wind turbines etc.). Only 1 billion euro is invested annually in fusion energy research. The budget for fusion energy research should increase by a factor of 30 or more to speed up the process of getting rid of the polluting fossil and nuclear industry so that mankind is able to live in a clean environment.

Hot fusion

There are primarily two hot fusion projects with a different set-up. These are the Z Machine [2] and the ITER project [3] (a third one with a much smaller set-up but maybe more practical is the Levitated Dipole Experiment [4]). The Z Machine is liquid based while the ITER project uses high temperature plasma within a magnetic donut form. Both machines are able to generate impressive amounts of energy. The Z machine is able to generate 290 terawatts (80 times the power generated on earth at any given time) or more.

Strong:

- Solves the world energy crisis.
- No pollution.

Possible drawback:

- The fossil fuel and nuclear industry is vehemently opposed to fusion energy research, seeing them as direct competitors instead of world problem solvers.
- The technology hurdles are enormous.
- For safety reasons, the Z machine should be constructed in a low dense populated area. The ITER doesn't has this drawback.

Chemically Assisted Nuclear Reactions (Cold Fusion)

Cold fusion is still controversial by contradicting the laws of current nuclear theory. Nonetheless, the research in this field is growing and promising results are reached thereby being applicable within this project. Science is Question All, even if this means questioning the foundation of science itself when real life time phenomena contradicts established theories.

Strong:

- Is able to generate more energy than hot fusion.
- No pollution.

Possible drawback:

- Controversial within the traditional scientific community.
- The hot fusion industry sees cold fusion as a direct competitor of funds.

The Z Machine

> ...But a funny thing happened on the way to the chop shop. Maybe it was 11th-hour desperation, or some invisible bolt of providence visited on a few overworked scientists, a couple of whom lit on the simple idea of stringing the wire array, the spool-sized target at the centre of the Machine, with double, then triple, the tungsten wire. All of a sudden - Boom! Forty trillion watts! No one believed it. They reconfigured the Machine, boosting its X-ray production. Then someone, Melissa Douglas, thought to stack the arrays. Boom! Two hundred trillion watts in a single pulse! Short of a nuclear blast, it was the most energy ever released on earth, and suddenly, in 1998, after five decades of chasing the illusion of high-yield fusion, of regarding it as some far-off Atlantis or dark galaxy's edge, the Z Machine was a third of the way there.
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> In science, if you do something once that's never been done before, it's considered a mistake. Do it twice, and it's simply a mirage. But the third time it becomes the truth. With Z's new, seemingly impossible results came the first flickering sign that some deep, unknowable power resided in the Machine. And so today, the Z Machine is considered one of the world's best hopes for achieving fusion. 'We may not understand how we get these huge pulses of power, the meaning may still elude us,' says Yonas. 'But it's still a fact.'
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> One that Yonas himself, at first, had a hard time grasping. After he was handed the results, he remembers squinting at them, and sitting back at his desk as if blown by a solar wind. 'My God,' he said in a small voice. 'This could work. This could really work.'
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> **-- From: A Machine called Z.**

[1] http://www.lenr-canr.org/.
[2] Z Machine http://www.bazaarmodel.net/phorum/read.php?f=3&i=25&t=25#reply_25 and A Machine called Z http://www.bazaarmodel.net/Onderwerpen/A_machine_called_Z.html
[3] ITER http://www.iter.org
[4] http://science.slashdot.org/science/04/08/21/1838211.shtml?tid=14