

Giant Kites

When most people hear the word 'kite', they think about flying one when they were a kid, or perhaps about the increasingly popular sport 'kite surfing'. However, when sustainable energy specialists hear this word, they think about yet another form of renewable energy. Several groups of scientists from around the world have been investigating this relatively new supply of energy for quite some time now.



The present generation of wind power facilities are still plagued by the limited availability of windy sites as well as the lack of constancy of the wind. Another disadvantage is the fact that most people don't enjoy the visual impact which is caused by the gigantic wind turbines.

Scientists from Delft University of Technology in the Netherlands have produced 10 kilowatts of power by flying a 10sq metre kite which was connected to a generator. This is enough electricity to meet the power needs of 10 family houses. They are now experimenting with a 50KW

version of their invention, which is named Laddermill. Their ultimate aim is to create a version which consists out of multiple kites. They claim that this version will be able to generate 100 megawatts. This would be enough to power approximately 100,000 homes.

Wubbo Ockels, a professor of sustainable energy and former astronaut, is in charge of the Laddermill project. He and his team believe that flying kites is a relatively cheap way to collect energy from the tremendous amount available in the wind at a kilometre or more above the ground. At these heights winds carry hundreds of times more energy than on the ground. He said: "We need to use all of the energy supplies that are offered to us by nature, we need diversity, and kites are... intriguing and fascinating."

Higher up in the sky winds are not only stronger, they are also more constant. Together with the fact that kites are made out of inexpensive materials, this is what makes the kite concept so interesting. There are many probable ways to harness the forces generated by a kite. One which is currently being tested is the following: airborne kites are flown in a figure 8 trajectory to maximize pull on the lines. Power is being generated by pulling the lines out from a spool which is connected to a dynamo. The next and final step contains reeling the kites back in. If done correctly, this step is supposed to require only 20% of the power which is generated by pulling the lines out from the spool.

Victron and Kites YouTube movie



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