

Re: Satellite Dish Engery

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- *From:* cyril <meynier.cyril@xxxxxxxxxx>
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On 28 Jun 2005 15:15:13 -0700, "Mike" <jacko2001@xxxxxxxxxxxxxxxxxx> wrote:

>I thought that has come to me tonight, the heat of the satellite dish
>when pointing dircetly at the sun is very high would it be possible to
>capture this energy and convert it into electrcity from the focal
>point. Thanks

Several small solar power plants have been built on this principle.

In the 70's, france built a 2.5 MW power plant called 'themis' using dozens of parabolic mirrors ('satellite dish' if you wish).

A sodium-based heat transport system converted the heat from all these receptors into electricity.

This worked but the plant was too expensive to operate and the program was discontinued.

More recently, other dish-based solar power plants use a different technology : instead of collecting heat from all dishes into one centralized boiler, they put a small heat-to-electricity conversion system on each dish.

So each dish is a small (10 to 100 kW) power plant, and you just cluster them to get a "farm" on any size.

The conversion unit can be a stirling engine or a photovoltaic receptor. Dish-stirling systems (Eurodish consortium in Europe, Stirling Energy Systems in the States) can convert 30% of incoming solar energy into electricity, probably the higher efficiency for any type of solar power conversion.

The biggest dish is an Australian 100 kW system, the mirror is huge (25 meters in diameter IIRW)

These systems are still expensive but mass production would bring their price down and make them quite competitive. Perhaps not for the main grid, where they would be in competition with nukes, coal and dams, but for remote communities in desertic areas.

These communities use small diesel power plants. With current oil price, electricity from diesel plants is extremely expensive, and

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renewables can easily complete. Of course, this is just a niche market.

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◇ *From:* jtnospam

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