

Subject: : Conservation

Topic: : WINDMILLS II

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URL:

yea-who: Average household uses roughly double that figure you gave. You can't sustain a house on a single turbine, but you can certainly take a big bite out of your bill, and it can save you money in the long run.

Wind and solar make a lot of sense for a home. In the grand scheme, though, the home is not where the most energy is used. Industry and business use a boatload.

Wave Energy: Yes it exists. It's expensive to build plants, and the output is highly variable depending on location. But there's lots of room for expansion. Probably not going to touch the total demand curve but you will see it on a commercial scale like the other renewables.

Tides: Highly situational, but in some cases a great source of power. Need an inlet with fairly high surrounding elevation. You build a dam covering the inlet. The dam is opened when the tide comes in, and then closed at high tide, trapping water in a bay. Then you run the dam like a hydro plant on the outgoing tide. Only a few places worldwide where its feasible. In most places the bay would just break through another area and make a new inlet, sidestepping your dam. Plus the tides have to be severe in that location, the bay needs to be large to hold lots of water, and it can only have one inlet. China made a real big one, and it produces a ton of energy.

There are also tidal stream systems. Basically a turbine in the middle of the water. They can be used in many more places, and the power output is more predictable than wind. Infrastructure a lot cheaper than a huge dam. But the total energy output isn't much.

Heat from chimney: A lot of homes use chimney heat to partially preheat the water going into the hot water tank. Heat capture systems for industrial furnaces are being increasingly used.

Water through pipes: Well, yeah, but that water is typically pumped. Using it for energy means the pump has to work harder. As per the 2nd law of thermodynamics, you'd have to use more energy to increase the power of the pump than you would get out of the moving water. If the water is not pumped, say, gravity fed, well thats a different story, and we use it in very large amounts, its called hydroelectricity and is far and away the most used renewable power source.