

Geothermal, Wave and Tidal Power: The Underappreciated Energy Supplies

By Russell Hasan

Renewable energy saw a huge rise in popularity in 2006, and things look to be even better in 2007. All around the world, people are engaging in projects involving solar panels and wind farms. 2006 also saw a boom in the ethanol industry, so big that the ethanol trend has been called a “craze.” Corn farmers and ethanol makers are excited about ethanol, and soy and jatropha farmers also hope to cash in on biodiesel. The number of ethanol and biodiesel producers is rapidly growing, as is the number of solar- and wind-powered buildings.

Unfortunately, popularity has not shined evenly upon every area of renewable energy. There are three forms of renewable energy that hold huge potential, but about which little is known. These three energy supplies have the ability to provide power for most regions of the world, but there is only a small amount of research being done in these, and progress is surprisingly slow. These three energies are geothermal, wave power, and tidal power.

Geothermal energy takes heat from underground and converts it into energy. The temperature far beneath the ground is much hotter than it is on the surface. Wells can be dug to access this heat, which is then used to make electricity. This can also be done when there are naturally occurring hot springs that bring the heat to the surface. In geothermal heating and cooling, pipes are laid below a building, and the pipes transfer heat and coldness from underground that warms and cools the building. In other areas of the world, such as Greenland and Australia, geothermal power is being exploited in big and imaginative ways. Sadly, geothermal power goes largely ignored in the United States, and the White House wants to eliminate the budget for geothermal research. In some places in the USA, geothermal heating and cooling is being used, but this has been slow to catch on. The heat inside the Earth is a resource that can be utilized anywhere on the planet, and it has a huge potential to provide clean, green electricity to millions of homes. This potential is being ignored.

Wave and tidal energy are two forms of power that take energy from the ocean and convert it into electricity. With tidal power, turbines are placed in the ocean at points where there is a heavy tide. The tide turns the turbines, producing power. With wave power, structures are floated on the surface of the ocean. These structures capture wave motion and convert it into power. At least two thirds of the planet’s surface is covered with oceans, and this represents a gigantic source of energy if it could be harvested. Sadly, tidal and wave power are still in the experimental stage, and there is little interest in wave and tidal power research. The seas of the world carry the potential to power entire nations in a clean, environmentally responsible manner, but there is not enough being done to make that a reality.

Obviously, it is a good thing that there is a great deal of interest in solar, wind, ethanol, and biodiesel. However, room must be made within the dialogue of renewable energy for geothermal, wave, and tidal power. These technologies, once they are well developed and implemented, have a great deal of potential. In order to stop global warming it may become necessary to exploit the attractive qualities of geothermal power, wave power, and tidal power.