RENEWABLE ENERGY INFORMATION FROM THE PIER AQUARIUM LABYRINTH

Solar energy is one of the most resourceful sources of the future. Photovoltaics (PV) meaning "light electricity" is a diverse technology that converts sun's light into electricity.

1. The majority of renewable energy technologies are powered by the sun.
2. The ocean, which covers 70% of the Earth's surface, is the world's largest solar collector.
3. The total energy received each year from the sun is 35,000 x the total energy used by man.
4. Solar power is produced by collecting sunlight and converting it to electricity.
5. Light and heat from the sun sustain plant and animal life on Earth providing fuel for all the planet's natural processes.
6. Florida, the Sunshine State, is a leader in the use of solar energy.
7. PV technology produces direct current electricity by collecting electrons freed by the interaction between sunlight and the semiconductor materials in a PV cell.
8. PV quietly produces electricity where needed: in space, on earth, at sea or on land.
9. Rule of thumb: 100 sq. ft. of PV area produces 1 kilowatt of electricity
10. What makes a good site for PV?
    - Clear, unobstructed access to the sun
    - South-facing roof exposure is best
    - Can be mounted on the ground

11. Progress Energy Florida (PEF) recently implemented a new program that offers additional utility incentives of $450 for the installation of solar water heating systems.
12. For PV systems, there is a federal income tax credit of up to $2,000 plus a State of Florida rebate of up to $20,000 for home applications and up to $100,000 for commercial applications.
13. Web sites for:
    - Federal tax credits http://www.fsec.ucf.edu/en/media/enews/2005/2005-03_EPAct2005.htm
    - State of Florida tax rebates http://www.fsec.ucf.edu/en/media/enews/2006/2006-04-E1_Energy-act.htm
    - Progress Energy incentives http://www.progress-energy.com/custservice/flares/save/solarheater.asp
14. Solar electricity powers homes, businesses, spacecraft and devices like calculators, roadside emergency call boxes and parking lot lighting systems.
15. Solar energy could meet 15% of US electricity needs by 2020.
16. One percent of electricity produced in California comes from solar electricity.
17. Conventionally generated electricity ranges between 5-18 cents per kilowatt hour but in most places it's below 10 cents. Solar energy costs around 15-17 cents a kilowatt hour. – Energy Information Agency
18. The cost to install solar panels to power an average home with electricity could be over $20,000.
19. Chevron Energy Solutions helps schools harness solar power across North America.
20. They are helping the Contra Costa Community College District in northern California save energy and cut greenhouse gas emissions.
21. It's the biggest solar power system ever built at a school of higher learning in North America.

22. Installed were solar panels and energy-efficient lighting.
23. The 3.2 MW solar system and other improvements make them more energy efficient.
24. The lighting from the solar panels is warmer and more helpful for working environments.
25. The solar panels are expected to save up to half of the District's electric needs at peak times.
26. Smart systems turn lights on/off when entering or leaving a room.
27. One benefit from the solar panels: covered parking.
28. Solar energy is being used to heat swimming pools and furnaces for homes.
29. Solar energy could be used to run cars, power plants and space ships.
30. Florida Power & Light Co. (FPL) received approval from the Florida Public Service Commission to begin construction on three solar energy centers that will make Florida the second largest supplier of utility-generated solar power in the nation.
31. Florida's SunSmart Schools Program is installing 29 solar electric systems in schools throughout the state.
32. The program combines state funding with private partnerships to provide clean energy and science education.
33. The electric power generated by the system will be used to power the school's classrooms with excess energy returned to the local power grid.
34. The system will provide an onsite classroom for students to learn more about solar power and the benefits of energy conservation.
35. One of the big issues with solar power has been that it costs more than electricity generated by conventional means.
36. As the cost of conventional power resources increases and the technology improves for PV panels, solar energy will become more and more cost effective.