

Marietta Sixth Grade Academy Learns the Principles of Solar Energy Through the Installation of a 5,000-Watt Solar System

A well-rounded education typically includes a multitude of learning sources. While authoritative books are one of the most widely accepted sources of instruction, a hands-on learning experience is also an effective way for students to incorporate what they learn into their everyday lives. In the upcoming school year, students at Marietta Sixth Grade Academy will get to take advantage of a little more hands-on instruction with the installation of a 5,000-watt solar system.

The environmentally-friendly measure is the result of a joint effort between Marietta City Schools, Marietta Power and Water and Electric Cities of Georgia (ECG). ECG has received \$460,000 of economic stimulus money for solar system projects under the Renewable Energy Grant Program.

Marietta Power and Water was awarded a portion of the grant money for the installation of one of the solar systems. Contributing 1/3 of the system's total cost, Marietta Power and Water selected Marietta Sixth Grade Academy as the recipient of the system. Marietta Sixth Grade Academy offers a Science, Technology,

Engineering, and Mathematics (STEM) Magnet program.

“The project objectives are to evaluate solar technology as a future source of power and to provide educational benefits for students and Marietta Power and Water customers,” explained Marietta Power and Water Marketing Director Barry Echols.



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How Does Solar Energy Work?

The U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) provides comprehensive information on solar and other forms of renewable energy.

Here's a more in-depth look at how solar cells produce electricity:

Solar cells, also known as photovoltaic (PV) cells, are made of semiconductor materials that convert sunlight to electricity. This conversion occurs when the energy of the absorbed light is transferred to electrons in the atoms of the semiconductor material. The newly energized electrons then escape from their normal positions in the atoms and become part of the electrical flow, or current, in an electrical circuit. A special electrical property of the PV cell, termed a "built-in electric field," provides the force, or voltage, needed to drive the current through an external load, such as a light bulb.

Available in a wide range of sizes and shapes, PV cells are often connected together to form modules that may be up to several feet long and a few feet wide. These modules can be combined and connected to form PV arrays of different sizes and power output. ☀



Marietta Power and Water Offers a Variety of Payment Options to Help Keep Your Business Running Smoothly

As your utility provider, we consider ourselves a partner in your daily operations. We understand that each business works differently, so we offer a range of payment options as diverse as our clients.

Marietta Power and Water gives you the flexibility of deciding which of our six payment methods best fits into your busy work routine. Plus, you have the option of changing your payment method at any time to better suit your needs.

Choose from the following easy options:

Pay Online — Our secure online bill payment system lets you pay using your Visa, MasterCard or American Express. You also have the ability to view your consumption history, payment history and modify select account information.

Pay by Automatic Bank Draft — The bill amount is deducted from your bank account every month on your due date, eliminating the need to write a check.

Pay by Mail — Complete your payment stub and submit a check or money order to:

Marietta Power and Water
P.O. Box 105588
Marietta, GA 30348-5588

Pay by Drop-Box — Find the convenient location near your business:

Marietta Power and Water
675 North Marietta Parkway
Marietta, GA 30060

City Hall Drop Box
205 Lawrence Street
Marietta, GA 30060

Fire Station Drop Box
228 Chestnut Hill Road
Marietta, GA 30064

Fire Station Drop Box
1160 Franklin Road
Marietta, GA 30067

Pay in Person — If you happen to be in the area, pay your bill in person at the Marietta Power and Water administration building at 675 North Marietta Parkway, Marietta, GA 30060. Our drive-thru payment window is open from 8 a.m. to 6 p.m., Monday through Friday, and our inside payment window is open from 8 a.m. to 5 p.m. Monday through Friday. We accept payment in person by cash, check, debit card, money order, Visa, MasterCard, Discover or American Express.

Pay by Phone — Call our automated system at (770) 794-5150 with your credit card number and select the option for making a payment and follow the prompts.

For more information, visit the Marietta Power and Water website at www.marietta-powerandwater.com and click on the Online Payments link. ☀

Some aspects of running a business should never be complicated. At

Marietta Power and Water, we will continue to make sure that paying your utility bill is always simple and convenient.

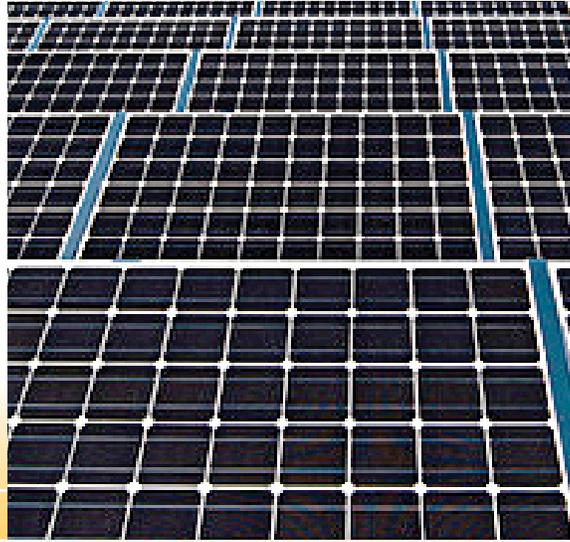
fast
FACTS
on Energy Use

Over 70% of electricity in the U.S. is generated from non-renewable sources.

- U.S. Department of Energy

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Installed by Atlanta-based Radiance Solar, the system is strategically placed on the school grounds so that students are easily able to observe the system on a regular basis. Solar panels collect radiation from the sun and convert it into electricity by photovoltaic cells that are grouped into panels. Through the proper number of panels and an



inverter, the sun's energy is converted into alternating current (AC) electricity. The Marietta Sixth Grade Academy system consists of 22 ground-mounted panels that feed directly into the school. The solar panels output can be monitored by the students via the internet. ☀

Marietta Power and Water's Online Commercial Energy Calculator™ Can Help You Click Your Way to Energy and Cash Savings

If you've been considering making some energy-saving upgrades around your office, cash is as good as in-hand with Marietta Power and Water's online Commercial Energy Calculator™. By utilizing the calculator, you'll have some real numbers to work with to help you better understand how new equipment or even new lighting can help your business conserve energy and money. The Commercial Energy Calculator™ provides estimates of energy usage and costs based on your inputs. The calculator also presents a comparison of three efficiency levels for each calculation.

To get started, visit Marietta Power and Water's home page at www.marietapowerandwater.com. Once you're there, click on the Power icon and then scroll to Commercial Customers and click on Commercial Energy Calculator.

The Instructions tab will guide you to provide current information on your facility such as building type and age, heat



and cool settings, and heating and cooling types. For lighting calculations, you'll select the applicable percent fluorescent from the drop-down box. You'll then click Calculate to establish your "Base Facility" energy costs, and you'll have the option to change your inputs and click Calculate again to see potential energy savings. After entering several scenarios, you'll be able to view the side-by-side cost estimate comparisons by clicking the View Details, View Chart and View Report buttons.

The Commercial Energy Calculator is part of the CommercialEnergySuite™. For

an even more in-depth look at business energy use, click on the accompanying Commercial Energy Systems and Understanding Demand icons. ☀

fast **FACTS** on Energy Use

If you replace 25% of your light bulbs with fluorescents, you can save about 20% on your lighting bill.

- U.S. Department of Energy

Sawyer Road Elementary Sets their Energy-Saving Legacy in Motion by Capturing a Second Overall Win in the Save-a-Watt Energy Challenge

At Sawyer Road Elementary School, learning to be a responsible steward of our energy resources is simply all in a day's schoolwork. An International Baccalaureate (IB) Primary Years Academy, Sawyer Road Elementary provides students in grades K-5 an interdisciplinary academic program that develops a global perspective through six inquiry units. "Share the Planet" is one of these learning units, and one that particularly resonates with both students and staff — especially when they get to use what they have learned in some friendly competition.

Through the Save-a-Watt energy challenge, Apogee, maker of online energy efficiency applications, and Marietta Power and Water, provide the contest venue for Marietta City elementary and secondary schools. The goal of the competition is for schools to decrease energy consumption

and identify sustainable energy conservation methods. Sawyer Road Elementary has proven once again that they are more than up to the challenge by claiming the overall win for the second year in a row. The school reduced their energy use by an average of 18 percent from September 2010 to May 2011. Total energy use reductions district-wide for the period averaged 7 percent.

Sawyer Road Elementary School Principal Jill Sims explains how the school was able to capture the win a second time. "We learned great energy saving habits from our first year in the Save-a-Watt campaign. Those great habits of mind provided an excellent platform for us to informally strategize to do more to make a difference in the area of saving energy. Basically, we did the same things better and more widespread," said Sims.

Consisting primarily of 5th graders, Sawyer Road Elementary's Green Team spearheads the school's winning approach to conserving energy. The team's strategic, energy-saving measures include posters and paper symbols of light bulbs reminding students and staff to turn off lights, computers and whiteboards.

A dedicated Save-a-Watt website provides real-time metrics that students can monitor. The results for the yearlong initiative are posted to the website by week and by month.

Sawyer Road Elementary will share half of the \$65,000 total district savings with other Marietta City schools achieving energy reductions and plans to use the monies for instructional purchases. ☀



CITY LIGHTS

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