

WATT WATCHERS

NEWS

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Volume 10 Number 2

The Newspaper for Watt Watchers and Watteam.

Now incorporating WATTimes and the Texas School Energy Manager News.

Energy Managers Issue

Summer 2006

ENERGY MANAGERS ♥ WATT WATCHERS

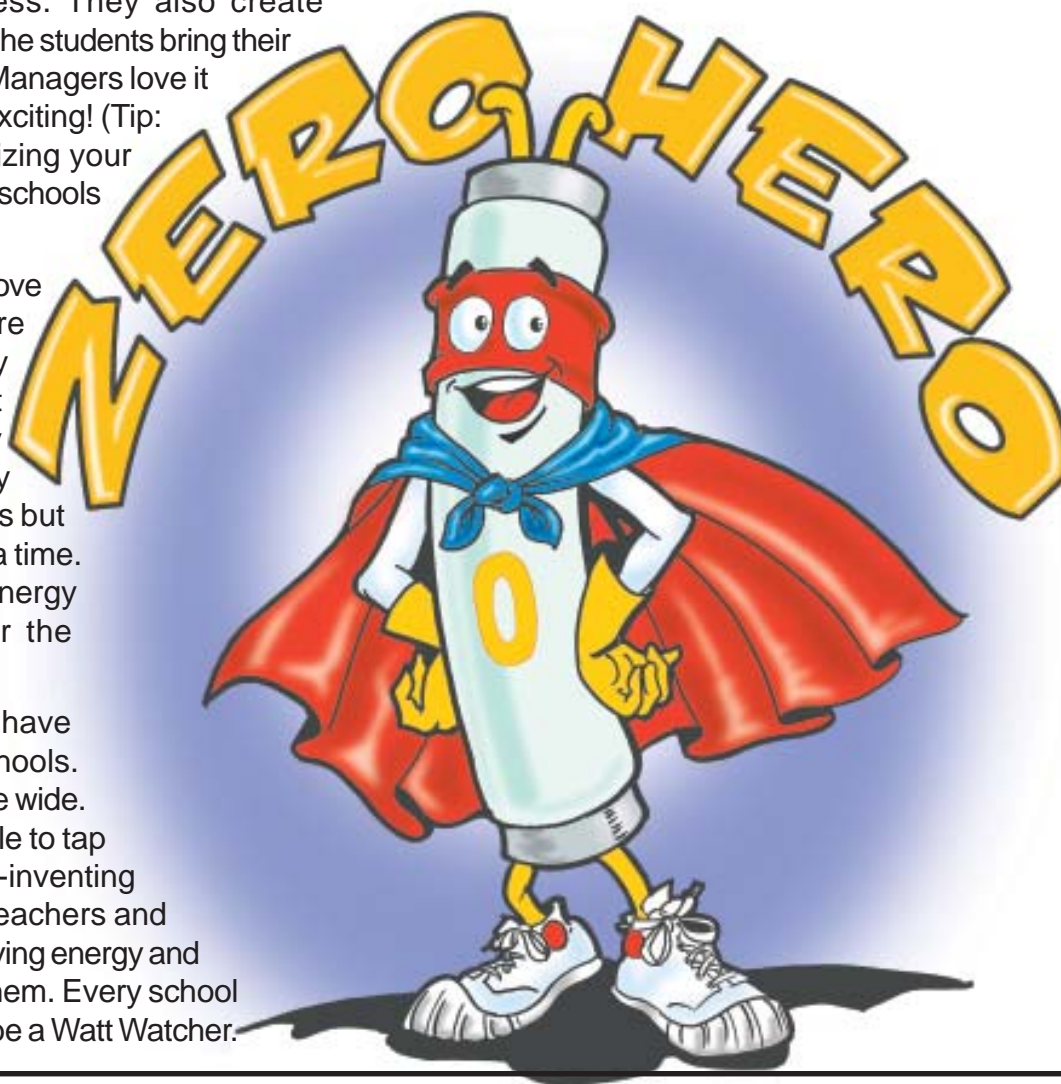
Energy managers love the Watt Watchers program. Energy Managers are keenly aware of energy use in their districts. They love it when others become aware too. Watt Watchers make everyone think about energy every day when they patrol their schools leaving tickets and thank-you notes, turning off lights and unused equipment, and doing special energy projects. Plus—saving energy saves money and Energy Managers adore that.

Perhaps just as important—Watt Watchers have FUN while raising energy awareness. They also create excitement in their schools when the students bring their enthusiasm to the task. Energy Managers love it when saving energy is fun and exciting! (Tip: You can tap into this by recognizing your Zero Heroes and Most Improved schools and classrooms.)

Another thing Energy Managers love about Watt Watchers—they are everywhere. Every day, on every campus, all year long, Watt Watchers are on the job. Energy Managers do get around and they even show up for midnight audits but they can only be in one place at a time. Energy Managers love having energy awareness presented all over the district all the time.

Many school districts already have Watt Watchers active in their schools. 3,500 programs are enrolled state wide. Energy Managers love being able to tap into an on-going program. No re-inventing the wheel, just reaching out to teachers and students already committed to saving energy and recruiting some others just like them. Every school has a teacher who would love to be a Watt Watcher.

Last but certainly not least—and Energy Managers find this part irresistible—is that Watt Watchers is Free, it is easy, and it comes with support. The State Energy Conservation Office sponsors it to help schools save energy. It is a snap to set up and keep going. And, there is a quarterly newspaper, monthly e-mail update, toll-free phone and fax support, workshops and events, printed manuals and handbooks, a website, and a CD-ROM with all the program materials on it. No wonder Energy Managers love Watt Watchers.



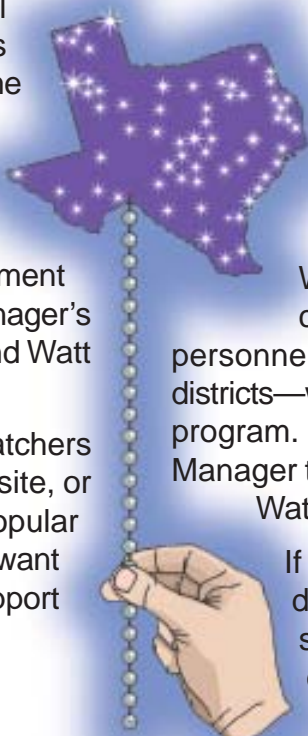
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WATT WATCHERS FROM THE TOP DOWN

Energy Managers: Enroll your school district in Watt Watchers. That is correct—the whole district. Not just some schools, or even half, but every single school. Imagine having everyone reminded about the importance of energy efficiency every day all across your district. Think of hundreds of students turning off unused lights and equipment all the time. It may seem like just an Energy Manager's pipe dream but it can happen. You can do it and Watt Watchers is ready to help.

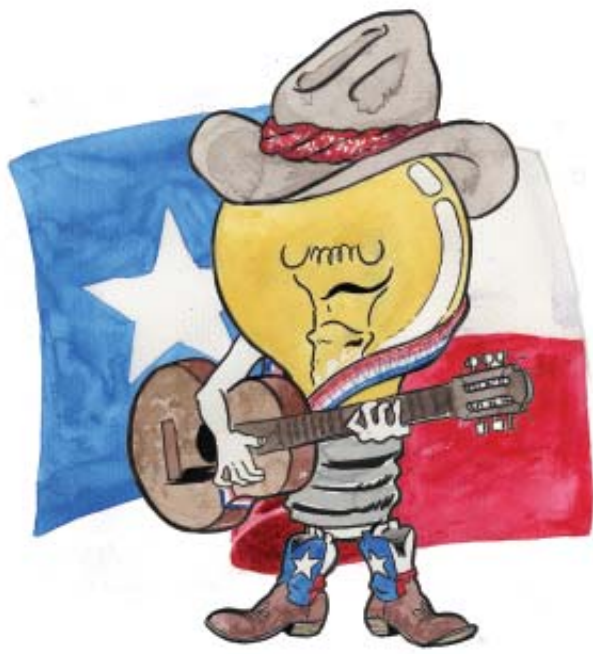
Typically, individual teachers enroll in Watt Watchers at educational conferences, through our website, or at workshops we present. Watt Watchers is popular with teachers and over 3,500 are enrolled. We want to help you get full district participation with support from the top down.



"Every school should be a Watt Watchers school"

Watt Watchers will target a direct mail campaign at superintendents, administrative personnel, and school board members in selected districts—who can effectively advocate for a district-wide program. We will be following up with each Energy Manager to provide additional support to expand Watt Watchers throughout the district.

If you would like Watt Watchers to start in your district, contact us for more information. Every school should be a Watt Watchers school. It can happen in your district.



WATT WATCHERS SPOTLIGHT ON CFB ISD

Carrollton Farmer's Branch ISD - Energy Management Program

The Carrollton-Farmers Branch School District has gotten a little "greener." This was due to a coordinated effort between Energy Manager Victor Melton, Cheri Reynolds and Michael Brooks of Abitibi Consolidated, C-FBISD Council of PTAs Environmental Chairperson Mia Simmons and President Heather Ashwell-Hair, and members of the C-FBISD Environmental Services team Lisa Stavinoha and Mark Schallhorn.

The long-term goal for the district is to have a well organized recycling program, a Watt Watchers and Paper Retrievers "Green Team" at each school, and full participation in the National PTAs Go Green Initiative. It has been developing slowly over the last few years and finally clicked into place this school year with the addition of the Abitibi Paper Recycling Program. The program not only diverts tons of paper from our landfills and means fewer garbage pickups that the school district has to pay for, but it also acts as a fundraiser for the schools. Abitibi pays the schools directly for each ton of paper collected each month. The green and yellow Abitibi bins have been placed at schools all across the district and have collected over 127 tons of paper so far this year!

The C-FBISD recycling teams and Watt Watchers gathered together on May 18, 2006 for a Green Team Rally to celebrate the year's recycling and energy conservation efforts within the participating schools. This was the first year the C-FBISD participated in the recycling program with Abitibi Recycling.

Victor Melton, C-FBISD environmental specialist and energy manager, said, "We are pleased with the number of schools volunteering for the recycling efforts. We now have 18 schools participating in these two programs."

Through the recycling and energy consciousness of C-FBISD students, they saved 3,672 trees and 1.5 million gallons of water and 648 cubic yards of landfill space.

They also saved enough energy to power 443 homes for a month.

Several participating schools now require smaller trash bins because they are recycling more paper and not sending as much to the landfill. From Jan. 9, 2006 to May 18, 2006, 216 tons were recycled. In these four months, C-FBISD collected over 1.8 tons of paper daily for the 115-day period.

Riverchase Elementary, Sheffield Primary and Rosemeade Elementary were the top winners with the highest energy conservation and the most tons of paper recycled. The three schools received trophies at the Green Team Rally. All participating schools and Green Team members received certificates. Pepper the Paper Retriever made an appearance at the rally and the Creekview High School cheerleaders greeted the children with cheers as they arrived at the auditorium.

Mr. Melton will have five schools participate in a pilot program during the 2006-2007 school year. Each school will receive a six-yard trash bin in lieu of the normal eight-yard trash bin to cut costs on the waste management budget. His goal is to have 90% of the district using smaller trash bins by the end of the 2008-2009 school year. The estimated savings will be about 10 percent of the waste management budget.

The recycling program has been indirectly beneficial to the district's established energy saving program (Watt Watchers). With the help of the C-FBISD PTA, Mr. Melton has combined the two programs into Green Teams. Mr. Melton explained, "Since the Watt Watcher program reminds teachers to tell their peers turn off lights, computers and other electrical items when they are not in use, some were hesitant to become volunteer coaches. But, once we combined the two programs, the teachers saw the benefits of both programs working together. By establishing the Green Teams, we now have enough teachers to volunteer to lead the program."

Mr. Melton wants all C-FBISD elementary schools to have Green Teams for the 2006-2007 school year. He added, "That way the students can and will encourage families and friends to

"...That way the students can and will encourage families and friends to recycle and conserve energy. That will make a difference in our world today and in the future. What better place to start than our elementary schools."

Victor Melton
Energy Manager



FROM YAHOO!IGANS JOKES
HTTP://YAHOO!IGANS.YAHOO.COM/
CONTENT/JOKES/

Q: WHY WAS THE LIGHT BULB FAILING TESTS?

A: BECAUSE HE WASN'T TOO BRIGHT!

SUBMITTED BY: COLLEEN, AGE 10



recycle and conserve energy. That will make a difference in our world today and in the future. What better place to start than our elementary schools."



SECO ENERGY ENGINEERS

ESTES, MCCLURE & ASSOCIATES, INC.

Rising utility expenses are making energy cost reduction more and more important to Texas school districts. Through our contract with the State Energy Conservation Office (SECO), Estes, McClure & Associates, Inc. provides a variety of energy engineering services to public schools in ESC regions 6, 7, 8, 10, 11, and 12. Available services to help districts control their energy costs include utility bill analysis, energy audits, training, workshops, and technical assistance.

Workshops are presented periodically at various locations throughout north and east Texas. Past topics have included energy management fundamentals, water conservation, electric deregulation, and energy codes. Also, customized workshops for your district are available upon request. These can be prepared for administrators, principals, maintenance staff, custodians, kitchen staff, and others.

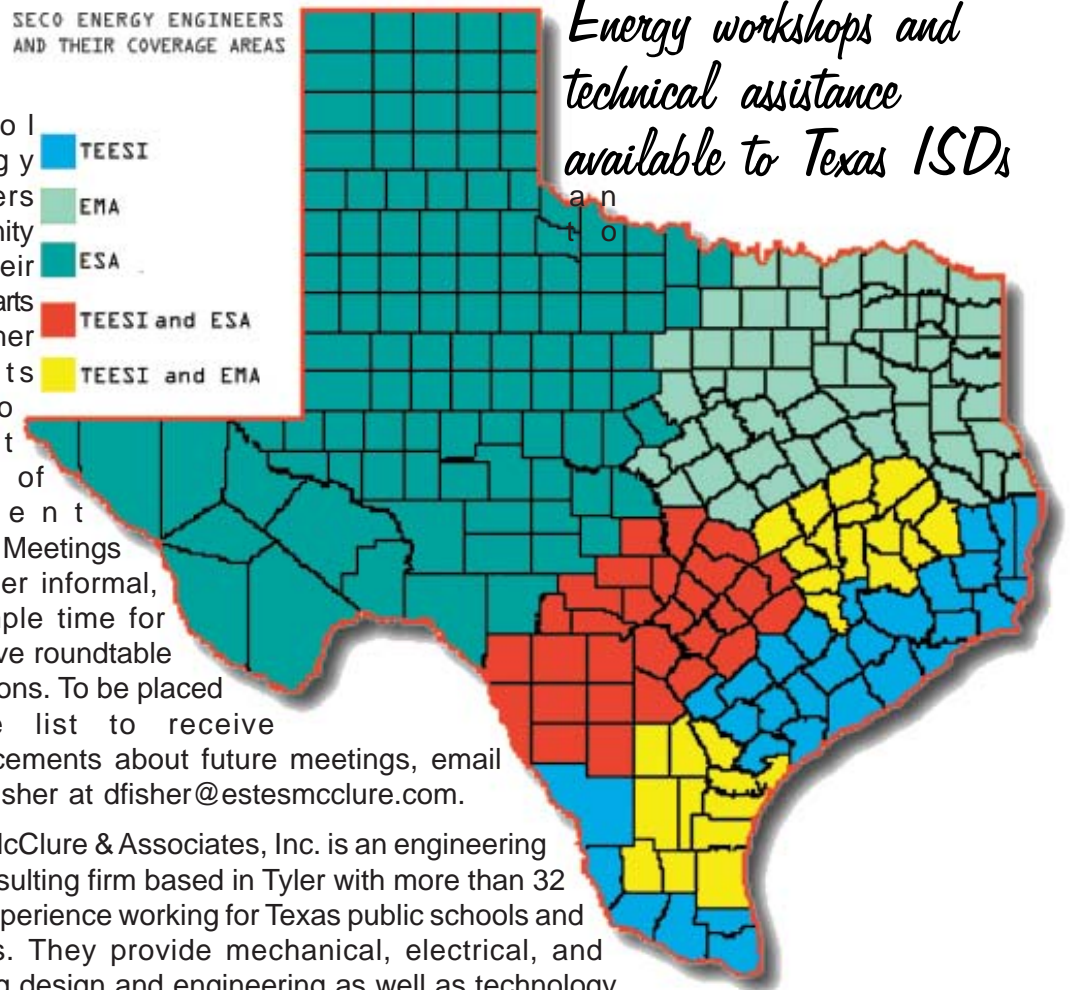
An energy audit includes walking through district facilities looking for sources of energy waste and opportunities for savings. A customized report is prepared that includes recommendations for improved operations, maintenance procedures, and retrofit opportunities. It is then reviewed with district administrators.

We also facilitate the DFW area energy managers network. Lunchtime meetings are held regularly at school districts around the Dallas-Fort Worth area. The purpose is to give

school energy managers opportunity meet their counterparts from other districts and to present topics of current interest. Meetings are rather informal, with ample time for interactive roundtable discussions. To be placed on the list to receive announcements about future meetings, email David Fisher at dfisher@estesmclure.com.

Estes, McClure & Associates, Inc. is an engineering and consulting firm based in Tyler with more than 32 years experience working for Texas public schools and colleges. They provide mechanical, electrical, and plumbing design and engineering as well as technology and energy consulting.

SECO ENERGY ENGINEERS AND THEIR COVERAGE AREAS



Energy workshops and technical assistance available to Texas ISDs

ENERGY SYSTEMS ASSOCIATES, INC.

ESA Energy Systems Associates, Inc., is the professional engineering firm selected by SECO to provide technical services to the western half of the State of Texas. Our firm has been providing this service through the various state energy offices for the past nineteen years and have provided some type of technical assistance to almost every public school and public hospital district in an area west of Abilene and north of San Antonio.

The primary tasks assigned to us by SECO may be summarized as follows:

TASK 1: Provide On-Site Technical Assistance ranging from free energy surveys which produce reports depicting energy efficient installations and staff efforts that lower monthly utility bills; electric and gas purchasing technical support; utility billing analysis; and other professional engineering consulting services as requested by individual districts.

TASK 2: Present Training Workshops covering topics such

as Maintenance & Operations Improvement, Energy Manager Job Description, Financing Energy Projects, Indoor Air Quality, and others.

TASK 3: Assistance in initiating Energy Manager Groups in regions all around the state. After the group is started, SECO allows someone from our firm to attend several meetings and present presentations on topics of interest.

TASK 4: Provide partial assistance in the preparation of a complete Mechanical and Electrical system Master Plans for the district. This Master Planning task expands the degree of service provided to include a 5-year plan of prioritized replacement projects allowing for a practical approach for more comprehensive systems improvement than is allowed under most one-year programs which normally concentrate on immediate needs.

ESA contact: Debra Brown 512-258-0547 dbrown@esa-engineers.com



Q: WHAT DID THOMAS EDISON'S MOTHER SAY WHEN HE INVENTED THE LIGHT BULB?

A: HE'S SO BRIGHT I CALL HIM SON (SUN)!

TEXAS ENERGY ENGINEERING SERVICES, INC.

Texas Energy Engineering Services, Inc. (TEESI) has been providing quality mechanical, electrical, plumbing, and energy management (MEP & EM) engineering and project management for building renovations and new construction since 1989. We provide assessment of both short and long term needs, including the most realistic options, while considering constraints such as budget or time. We also assist clients in acquiring project financing.

TEESI offers specialized workshops including facilities planning, design, indoor air quality, ADA compliance, and energy management for executives, managers and technicians. Our goal is to give clients the facility planning, design and project management services that best meet their needs by working very closely with them in the planning phase, to guarantee the desired results. We take pride in our responsiveness to client and contractor questions and needs.

Investing in our communities through improved energy efficiency in public buildings is a win-win opportunity for our communities and the state. Energy-efficient buildings reduce energy costs, increase available capital, spur economic growth, and improve working and living environments. The Preliminary Energy Assessment Service provides a viable strategy to achieve these goals. TEESI works closely with school districts to:

- Identify and assess energy efficiency measures,
- Perform walkthrough energy assessments of specific facility(s)
- Implement energy efficient operations and maintenance practices and procedures identified
- Identify and assess capital intensive energy projects which will produce significant energy cost savings
- Locate funding sources to enable the partner to complete capital projects.

TEESI believes that people who are responsible for building and maintaining public facilities should always consider long term costs. TEESI's goal is to provide information to enable clients to make informed decisions, assisting from planning to implementation, and post implementation follow-up.

TEESI maintains two offices:

Austin, Texas Office
1301 Capital of Texas Highway
Suite B-325 Capital View Center
Austin, Texas 78746
Phone: (512) 328-2533
Fax: (512) 328-2544

College Station, Texas Office
511 University Drive, Suite 205
College Station, Texas 77840
Phone: (979) 268-0714
Fax: (979) 260-3059



INCENTIVE FLAG PROGRAM

Would you like to raise the awareness of energy in your district? Do your Watt Watchers programs need a little competition to boost them? Watt Watchers of Texas has the answer!

Watt Watchers wants to encourage your district to recognize schools that are saving energy. At the same time you will create a competition in your district based on energy savings. This competition will allow more of your campuses to

get involved in the Watt Watchers program which is proven to reduce your energy waste, make everyone aware of energy costs on the campus, and will teach the occupants of the building how to reduce energy usage.

Watt Watchers of Texas will provide Texas school districts with one flag for you to award monthly to a deserving school in your district. All you have to do to receive this flag is commit to participate in the Watt Watchers program from the top down. You as the Energy Manager would coordinate a Watt Watchers program at the majority of the schools in your district. This is a big task, but once implemented the program runs itself and Watt Watchers will be here to support you all along the way.

You may be wondering how you decide who gets the flag each month. Watt Watchers suggests giving the flag to the school that has the most energy savings that

month. This would show the community the effort those teachers are making to save energy and tax dollars. But there are lots of ways to use the award. Give it to

the school with the most Zero Heroes that month, which would require the students to submit data to you each month from their patrol check sheets. Give it to the school with the lowest consumption per square foot. Or, the school that has the most improvement. You could even use

the flag as an advertisement to show that a new school has started a Watt Watchers program.

The purpose of this program is to bring awareness to everyone's minds about the need to save energy in our schools and to recognize those who are doing an outstanding job. Watt Watchers recommends that you present the flag during your school board meetings so that the administration recognizes the efforts made by teachers, staff and students to help reduce energy use in the district. Send a press release to the local paper, radio and television station so everyone in your community knows about the work everyone is doing. And of course, send a press release to us so we can honor that school in our correspondence with other Watt Watcher schools and state agencies.

For more information about the Watt Watchers Incentive Flag program, please contact us at info@wattwatchers.org or call our toll-free line at 1-888-USWATTS or 1-888-WATTEAM.



FROM YAHOO!IGANS JOKES
[HTTP://YAHOO!IGANS.YAHOO.COM/CONTENT/JOKES/](http://YAHOO!IGANS.YAHOO.COM/CONTENT/JOKES/)

Q: WHY DID THE LIGHT BULB WALK BACKWARDS TO SCHOOL?

A: IT WAS BACK TO SCHOOL DAY!

SUBMITTED BY: SUSAN, AGE 8
(SLIGHTLY MODIFIED)

ENERGY MANAGERS MAIL CALL

Watt Watchers sent all the energy managers on our list a packet in June to help you better understand how our program works. The packet included a letter from Watt Watchers, a Watt Watchers Program Manual, program flyers, and a very important list. This list lets you know who is participating in the Watt Watchers program in your district. We encourage you to contact those sponsors on the list and let them know that you are there to support them and provide them with information on their monthly energy reduction. We would also like you to use that list to fill in the gaps. Every school in your district should be a Watt Watchers school and we are here to help you make it happen. We will provide support to you in getting the programs set up and continue that support throughout the life of the program!

Having a hard time finding sponsors at each school? Watt

Watchers encourages you to find the energy/environment champion at each campus. Sometimes it's a science teacher, or maybe a social studies teacher, or even a service organization sponsor. Don't limit yourself – put out the word that you are looking for someone that likes to save energy—save the earth—prevent pollution. There is at least one energy champion on every campus!

Are you wondering why you did not receive the packet? That means you must not be on our Energy Manager mailing list. Please send us an email at info@wattwatchers.org and we send you a copy of the packet.

The August packet will include information about Computer Power Management. Check your mailbox and learn why Sleep is Good!

SHARE YOUR ENERGY MANAGER STORY

interviews with energy managers

That's right Line 1 is for you and it's Watt Watchers, we want to share your story. This fall Watt Watchers will be contacting Energy Managers across the state to interview them for the Watts News Newspaper. We feel like it is important to share your story with other Energy Managers and Administrators around the state.

This will give us a chance to put your district in the spotlight

– brag about projects that have been implemented in your district and the savings that has been incurred or talk about your current situation – new construction and the energy efficiency features that have been included, its up to you – it's your story!

So, who will be first? We don't know but perhaps you will be the first to find out!



ELECTRIFYING EXTRA ENERGY MANAGERS WEBSITES

Rebuild America—Helping Schools Make Smart Choices About Energy



<http://www.rebuild.gov/sectors/ess/index.asp>

This website has a wealth of information available on topics from school energy costs to bus transportation. A booklet titled, School Operations and Maintenance: Best Practices for Controlling Energy Costs can be ordered or read online. This booklet is up to date (written in 2004) and has case studies and real life solutions to problems all energy managers face. There are also guidelines available specifically for your climate zone. These design guidelines are for new and retrofits plans. George McLean of College Station ISD even has a bit of information for you through a case study in his district. And if you need any more reasons to visit this site, just look at some of the research data that has been posted. "A growing body of research links student achievement and behavior to school building designs that reduce energy consumption. (These) can help provide a more effective learning environment. Energy savings can be redirected to educational needs. Energy improvements can also have a positive impact on student health, comfort and performance."

A Consumer's Guide to Turning off the Lights

http://www.eere.energy.gov/consumer/your_home/lighting_daylighting/index.cfm/mytopic=12280

If you need more information for those teachers who think that turning off the lights will "hurt" their light bulbs, send them here. Information on incandescent and fluorescent bulbs is available from a "reputable source"—the US government. And, if you are looking for some lighthearted reinforcement, check out the new Watt Watchers poster on lighting myths.

Energy Star Purchasing & Procurement



http://www.energystar.gov/index.cfm?c=bulk_purchasing.bus_purchasing

ENERGY STAR® Institutional Purchasing encourages and assists governments, schools, and businesses in procuring ENERGY STAR®-labeled products. In addition, this purchasing initiative includes energy-efficient products recommended by the U.S. Department of Energy's Federal Energy Management Program (FEMP). Both ENERGY STAR®- and FEMP-recommended products use 25 to 50 percent less energy than their traditional counterparts, reduce fossil fuel use, and produce fewer greenhouse gas emissions. The website has online training classes and an easy to use guide to find the best-fit appliances for a school. Savings calculators are also available so you can easily compare the purchase of new equipment to using the equipment currently on campus. The appliances listed range from exit signs to vending machines and from computer monitors to kitchen fryers.

Consortium for Energy Efficiency



Commercial Building Performance

<http://www.cee1.org/com/bldgs/schools.php3>

The CEE has a wealth of information available as well as people to answer all questions on creating an energy efficient school. They can help with retrofits as well as new construction. CEE has formed a working group and a catalog of existing program information and resources. Power points and videos from speakers on topics relating to School building efficiency can be viewed from the website.



Clean Cities—Fleet Information

<http://www.eere.energy.gov/fleetguide/>

Clean Cities recently created a new online tool to help fleet managers make informed decisions about alternative fuel vehicles and advanced vehicles, such as hybrid electric vehicles (HEVs). The Clean Fleet Guide has a comprehensive vehicle search tool that allows users to search for available vehicles by fuel type or technology, manufacturer, year manufactured, or vehicle class. It provides vehicle specifications, dealer links, and links to cost calculations as well. The Clean Fleet Guide features tools to help fleets make "green" vehicle and fuel decisions. Supported by Clean Cities, this site offers specs on available alternative fuel and advanced technology vehicles, tools to perform cost analyses based on specific locations, and information on other technologies that can help improve fuel economy. In addition, users will find "clean fleet" strategies they can use to build their own green fleet.



Great resources for school energy managers.

The Colorado Association of School District Energy Managers (CASDEM) was formed to provide a network for public school district employees responsible for energy management. CASDEM has regular meetings and conferences where our members get together and learn from each other. The CASDEM website has great resources for school energy managers.

Check them out at www.casdem.org

ENERGY POLICY

Does your district have one?

A solid energy policy will save time, money, and energy. A successful energy policy comes with, among other things, support from administration and school boards. We highly recommend that you as an Energy Manager work with the administrators, faculty, staff, parents and business people in your district to create an Energy Policy that receives the approval of the school board and one that everyone in your district is aware of and abides by.

Why have an energy policy?

An energy policy can be used to: describe the structure of your energy management plan, provide direction and support for all activities, set goals, prescribe behaviors, identify roles and responsibilities.

What should be included?

Energy-Efficient Education: Cutting Utility Costs in Schools (SECO,2001), published by the Texas Comptroller and the State Energy Conservation Office, suggests obtaining commitment from the top; establishing a realistic energy-saving goal, making energy-saving goals and strategies applicable to all; designating an energy manager; developing a plan that keeps the program visible, relevant, and responsive; linking the budget to the plan.

You may already have an energy policy in your district. It's always a good idea to review and update it to ensure it is responsive to your current situation.

How do I get started?

The Texas State Energy Conservation Office (SECO) website can help get you oriented. (See <http://www.seco.cpa.state.tx.us/sch-gov.htm> .) And, Watt Watchers has a program called the Great Energy Policy Exchange.

What is the Great Energy Policy Exchange?

In a past issue of the Watt Watchers newspaper we launched this exchange to assist school districts in writing an effective Energy Policy. We created a CD-

ROM with a collection of energy policies from several districts that have joined in on the exchange. Policies range from one page to more than 10. We have also added some corporate policies and supporting documents. There are 6 Texas ISD policies and 19 other policies for a total of 25 files to collect info from, and more will be added as they come in. We hope it will be useful for policy development and updating. Contact Watt Watchers today to get your free copy of the CD-ROM, or to add your policy to the exchange.

Whatever your current situation may be, we hope that you will participate in this exchange. Send Watt Watchers a copy of your district energy policy and share it with other energy managers via our CD-ROM. Now, you can review the collective ideas of every school district to look for good ideas that may apply in your district. This is a great way to "tune up" your school district's energy policy.

What if I don't have a policy to share?

You can still participate—fill in an Energy Policy IOU form and send it in. Watt Watchers will send you the policies in our CD database for your review and will include your IOU along with the published policies. When you complete your energy policy, send it in to us to be included in the next updated published policies database.

Our goal is to save as many trees as possible. For this reason we ask you send us an electronic copy as an attached file to our email address: info@wattwatchers.org. However, if you only have a hard copy, please mail it to us. We will update the CD-ROM for distribution to participating Energy



FROM YAHOO!IGANS JOKES
[HTTP://YAHOO!IGANS.YAHOO.COM/
CONTENT/JOKES/](http://YAHOO!IGANS.YAHOO.COM/CONTENT/JOKES/)

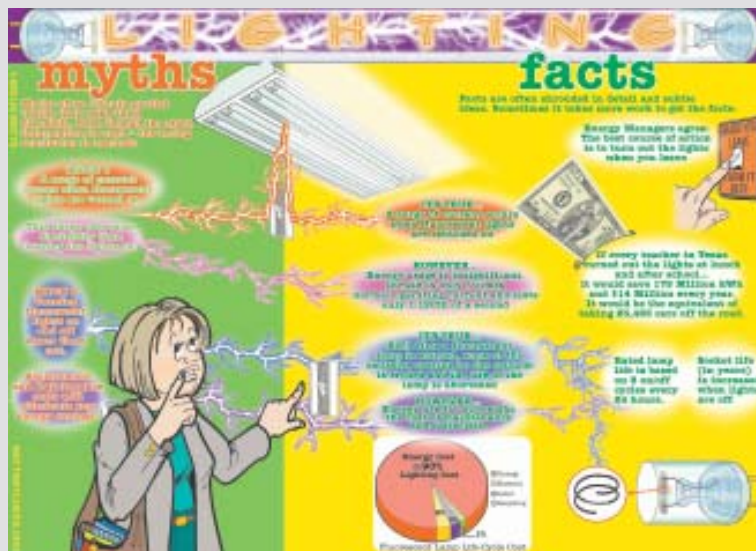
Q: WHAT DID THE BABY
LIGHT BULB SAY TO
HIS MOMMY?

A: "I WUV YOU WATTS
AND WATTS!"

SUBMITTED BY: ASIA, AGE 9

LIGHTING: MYTHS POSTER

Every issue of Watts News has posters for you. The full-color, pull-out center section can be laminated for durability and flipped to display a 16x20 inch poster on each side. Summer 2006 marks the beginning of a new dimension for Watts News. Starting with this issue, every newspaper will include an educational poster along with a graphic and colorful Watt Watcher promotional poster. We hope you like the educational aspect and can use it in your schools and classrooms. We chose Lighting Myths for our first poster since it is such a recurrent (and sometimes hot) topic. Next issue we will cover solar cooking. If you have a subject you would like to see us address please contact us.



ENERGY MANAGERS CD-ROM

Energy Managers, get ready, because Watt Watchers is in the process of creating a CD-Rom just for you. This CD-Rom is a tool for you to use that will help you increase energy awareness in your district. It will have information about district-wide Watt Watchers with all the support materials you might need to implement the program in your district. Computer Power Management information has also been included so that you can save \$20 per computer monitor in your district. Energy Policies, Purchasing Policies, lighting and HVAC information, plus much

more will be available on this CD-Rom.

We would like some input from Energy Managers. What you would like to have on a handy CD-Rom? We are in the process of going back through all the issues of the Watt Watchers newspaper to archive all the articles relevant to an energy manager. This will give you a large database of information.

We want y'all's input – so send us an email or give us a call and we will do what we can to include your suggestion on the CD-Rom.



START WATT WATCHERS IN YOUR DISTRICT

As the Energy Manager you may have found that you cannot visit all of your schools every day. That is why you need eyes at every campus every day helping you. They say necessity is the mother of invention. Watt Watchers “invented” a program to satisfy that very need. Using students and teachers you can have “eyes” at all your campuses that see energy waste and report data back to you. Even better, they can turn off unused equipment and save your district big bucks.

The Watt Watchers of Texas student energy patrol



Step Four: Train Sponsors.

(Done by the Energy Manager and Sponsors.)

Train your sponsors. This can be done in several after-school meetings, or a one-morning event. Using the program manual, present the Watt Watchers program to the sponsors. Develop the program at each school by working with each sponsor to decide how Watt Watchers Student Patrols will work best at his or her school. Each school may do things a bit differently due to size of the campus, age of the students, and other campus-specific factors. Help the sponsors decide on which students should be on the Student Patrol team. Once again, this may vary widely from campus to campus. There are handy tips for choosing students in the program manual. If you are interested Watt Watchers can come and present a 6-hour workshop for the sponsors in your district. This workshop will allow us to train them on setting up the program on their campus as well as train them on the other awesome programs that Watt Watchers offers.

Congratulations! You have implemented Watt Watchers in your district. From this point on you will have an army of helpers at every school helping you save energy every day. Your work is done but don't forget to visit your “troops” and plan campaigns with your “officers.”

Step Five: Train Students.

(Done by the Sponsors.)

Once the Sponsors get back to their campuses, they will set up patrol teams and patrol guidelines with their students. What time of day, which hallways each group will go to, and where to store the materials, will all be decided now. The Students who are joining the Watt Watchers patrol team will be responsible for walking the halls unsupervised for a short period of the day. Have each student sign a contract, found in the program manual, so each one knows what is expected of him or her.

Step Six: Use Stealth.

(Done by the Sponsors and Students.)

Go on a secret mission. The students will go collect data without telling any of the teachers on campus that they are coming. This will give them some baseline data to use when awarding Zero Hero, and Most Improved awards. This will also give you, the Energy Manager, some data on which schools might need more education and which ones are already doing a pretty good conservation job. When you have completed this very important step, please send the information to Watt Watchers so that we can report on the data.

Step Seven: Get the Word Out.

(Done by the Sponsors and Students.)

Present the program to their respective schools. Skits and chants are included in the program manual to help the students present the Watt Watchers program to the other teachers in the building. These skits could be done before a monthly teacher meeting as the teachers are coming in (therefore not taking any time away from the actual meeting) or video taped and shown during announcements. This is a good way to educate the teachers and students about the project.

Step Eight: Keep Score.

(Done by the Students.)

Patrol and return the information to the Energy Manager. The students will continue to patrol and leave tickets for teachers. This information can be tallied periodically and given to you so you know which teachers might need a bit more education and which ones are doing their energy conservation job.

Once the program is off the ground, you would only need to monitor occasionally. Use the incentive flag program as a competition between schools to see who can save the most energy. Or, make the Zero Hero Award a part of your district awards banquet to encourage more participation. And always remember to call Watt Watchers with your success stories.

can be done by many different groups in grades K-12. Once you have it organized and make a few key decisions, these students can be your eyes on campus and help you spread the message of energy efficiency and energy conservation.

Step One: Make Contact.

(Done by the Energy Manager.)

Contact Watt Watchers of Texas. There are most likely teachers in the schools of your district doing the Watt Watchers program. We have enrolled 2487 schools in 588 districts. When you call, Watt Watchers of Texas will send you a free kit along with a list of teachers who have previously enrolled in the program in your district. Familiarize yourself with the Watt Watchers materials you receive in the free kit. Think about your schools and what information you would like to gather. How often would you like the students to patrol? What other data might they collect while patrolling? What student groups do you have that might be interested in this project?

Step Two: Get Support.

(Done by the Energy Manager.)

Get support from your district. Add Watt Watchers to your district energy policy. Inform the administrator, faculty, and staff about the plan.

Step Three: Get Sponsors.

(Done by the Energy Manager.)

Choose sponsors (usually teachers) at each school. Contact all the people from the list Watt Watchers sent you to see how you can assist them with their program and for ideas on getting others involved. For the other schools on your list, contact the service or science club sponsors, student council sponsors, science teachers, or ask for volunteers at a monthly teachers meeting. You might want to have a few backup names, just in case your original volunteer does not work out. There is an energy champion on every campus—your job is to locate them. Resist the urge to draft sponsors; volunteers put their heart into it. As you find champions for each school in your district, give us a call. Watt Watchers will mail you a kit for each new sponsor. Each teacher needs his or her own materials to get things started.



Q: WHY DID THE COMPUTER SCARE THE LIGHT BULB?

A: HE HAS ALWAYS BEEN AFRAID OF MICE.

WATT WATCHERS WATCH WORDS

A slogan, a saying, or a catchphrase – we like to call them Watch Words. Advertisers refer to them as taglines. By any name, key phrases help us organize our approach to tasks. They set the mood, create expectations, and help us remember. “Just Do it!” “It’s the real thing.” All corporations seek to have unique identifying slogans for their products. “Finger lickin’ good.” “Let your fingers do the walking.” Getting people to identify with and buy a product takes some convincing. And getting people to repeat a behavior change is even harder. “We try harder.” “Because I’m worth it.” Words can have a powerful effect on each of us and slogans can be one of the most effective means of drawing attention to an idea. “Where do you want to go today?” “Don’t leave home without it.” No products were mentioned but you assuredly know the company and product behind the watchwords. (If not, your TV and radio are broken, you don’t read the newspaper, and you don’t get out much either.)

Energy conservation advocates need some good Watch Words to help us all Watch Watts. Some good work has been done already, a few notable examples are: “Not in use? Turn off the juice!”—the Federal Energy Management Program slogan for Energy Awareness Month 2005; “Change a light ... Change the World,” the tagline for the Environmental Protection Agency’s Change campaign. FEMP also promoted “You Have the Power” to let people know they can save energy — it’s up to them. Other great examples include: “Energy Star – Energy isn’t all you’re saving,” to remind us that pollution is also reduced; and “Look at the 2nd price tag,” EPA’s pitch to remind consumers that the

cheapest to buy may not be the cheapest to own over the lifetime of a product.

Here are two more possibilities to consider:

Watch Watts—Save Lots.

Flipping switches increases riches.

Please participate in this effort by authoring your own energy efficiency slogan or adapt some existing ones. Many taglines from other products may be re-written to send an energy efficiency message. What counts is that everyone gets the message. For example:

“Efficiency keeps going and going and going ...”

“Kids who watch watts have parents who watch watts.”

“Click it or Ticket” (or is it “Flip it or ticket”?)

“We save energy the old fashioned way ... we turn things off when we leave.”

Watt Watchers – don’t go to school without them.

Give a hoot. Don’t pollute.

Energy efficiency equals pollution prevention.

“Take a bite out of waste.”

No matter if you call it a slogan, saying, maxim, adage, dictum, motto, aphorism, catchphrase, watchword, axiom, truism, platitude, cliché, or tagline it can change the way you think about a concept. But remember -saving energy is more than just a catchphrase. Do something about it. Get involved! “Reach out and touch some switches” because “Friends don’t let friends waste energy.”



Watch your thoughts;
They become words

Watch your words;
They become actions

Watch your actions;
They become habits

Watch your habits;
They become character

Watch your character;
It becomes your destiny.



Frank Outlaw

AUTOMATIC SLOGAN GENERATOR

There is an automatic slogan generator on-line that generates a tagline with your watchword in it. See: <http://thesurrealist.co.uk/slogan>. It is intended to poke a little fun at the whole process but sometimes comes up with good ideas.

Some results with “efficiency” as the watch word:

Behold the Power of Efficiency.

Wouldn’t You Rather Be Efficient?

It’s the Bright One, it’s the Right One, that’s Efficiency.

Recommended By Dr. Efficiency.

Promise her anything but give her efficiency.

Efficiency keeps going and going and going...

We Don’t Make Efficiency. We Make Efficiency Better.

Get the Efficiency habit.

Efficiency makes everything better.

Smart. Beautiful. Efficient.

Efficiency goes to your head.

We’re serious about efficiency.

And here are some slightly edited versions:

Don’t Go to school without Watt Watchers!

Please do squeeze the utility bill.

All good things come to those who wait – except energy efficiency.

I think, therefore I use energy wisely.

I’d rather switch than fight (over light).

Maybe you can modify these old stand-bys to be used to promote energy efficiency.

“Reach out and touch someone.”

“A little dab’ll do ya.”

“Drivers wanted.”

“When you care enough to send the very best.”

“Got Milk?”

“Breakfast of Champions.”

“Obey Your Thirst.”

“99.9% Need Not Apply.”

“Energy—for a strong America.”

“You, asked for it. You got it, Toyota.”

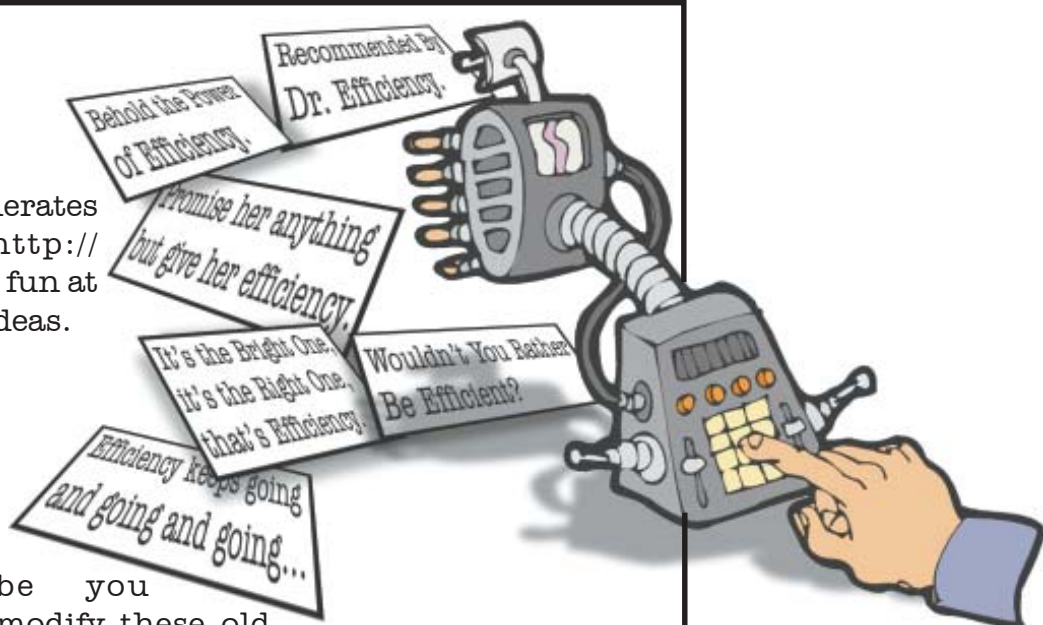
“We’ll leave the light on for you.”

“R-O-L-A-I-D-S spells Relief.”

“We make money the old fashioned way— we earn it.”

“VISA – It’s everywhere you want to be.”

“I don’t wanna grow up, I’m a Toys ‘R’ Us kid.”



LIGHTING: MYTH VS. FACT

Frequently Watt Watchers is asked about the advisability of turning off fluorescent lights. The inquiring teacher (almost always a new Watt Watchers sponsor) is a little apologetic and quickly explains that there are just some difficult teachers that insist that the school district will lose money if they turn out the lights every time they leave their classroom.

Some of these teachers state that they know that frequent switching of fluorescent lights will cause premature failure of the bulbs and end up costing the school district more in bulbs, labor, etc. Furthermore, they elaborate, an electrical surge occurs when fluorescent lights are switched on and this surge will consume much more energy than could ever be saved by turning out the lights.

These teachers may be surprised to learn that their "facts" are actually myths. But there is a small kernel of truth within the myths, which is probably how these ideas persistently hang on year in and year out. A surge of electricity does occur and extra wear that shortens the life of fluorescent bulbs is caused by switching them on and off. Nevertheless, every lighting expert will agree that turning off the lights when you will be out of your classroom for 10 minutes* or more is the smart choice. Period. What's a poor teacher to do?

There is no real controversy here. Sometimes it's necessary to upgrade our knowledge base along with the technology. We just need to get all the facts. Half truths, it seems, create energy myths. The electrical surge is extremely short and insignificant. The wear on the light bulbs is far outweighed by energy savings when the lights are out. Very simple. But I'm afraid we will have to do our homework and document these facts.

Watt Watchers recommends simply compiling documentation and providing it to the "myth-bound teacher" in a scientific and non-threatening manner and asking for the same from them. Since there is no evidence supporting the myths it will put them in a difficult position. Be gentle with them; they are operating on the best knowledge they have. Science is squarely on your side.

Manufacturers base the expected life of fluorescent bulbs on an average 3-hour "strike." That is, they test them by continuously switching them off and back on every three hours until half of the bulbs fail. An average life in hours is expected in bulbs that experience 8 on-off cycles per 24 hour period. This fits nicely within almost all patterns of usage for offices and classrooms.

The occupancy sensor industry has grown to be a very large segment of the energy retrofit market. Occupancy sensors are automatic switches that turn off lights after 5 to 10 minutes of no motion in a room or hallway. The time delay is chosen based on cost effectiveness.

Please help Watt Watchers catalog the existence of lighting myths. As you encounter them, please give us feedback on what happens in your school. And send any articles you may see about energy myths.

Here is a list of references about lighting myths. Watt Watchers can supply you with hard copies of the referenced articles on request:

One recent review of this issue is at:

<http://www.energyideas.org/topics/default.cfm?o=h,t&c=z,z>

then follow this menu chain: Home >Topics >Lighting >Operation and Maintenance >LIGHTS OUT: Does turning off fluorescent lights for x amount of time shorten the lamp life or use more energy?

The Environmental Protection Agency (EPA) created a program called GreenLights to assist corporations in improving lighting efficiency. The program has evolved into the EnergyStar Buildings program and is jointly sponsored with the Department of Energy. GreenLights and EnergyStar Buildings recommend that lights be switched off in unoccupied rooms. The Fall 1997 EnergyStar Buildings and GreenLights Update includes an article on energy myths about occupancy sensors. Myths number 4 and 5 address frequent switching and electrical surges.

EPA GreenLights training covers the myths and includes a pie chart that shows energy to be 90% of the total cost of owning and operating a lighting system. The example they provide is for an efficient T-8 system where the energy costs are very low and they use 7 cents per kWh (below the current national average of 8 cents). Even in this system energy accounts for 90% of total cost. Materials (replacement bulbs) are 6%.

Labor to change the bulbs is 3%. And, last but not least, EPA calculated 1% of total costs for properly recycling the old bulbs.

The Illumination Engineering Society (IES) is the standard bearer of the lighting industry. The IES Handbook is the basic reference for all lighting professionals. The handbook recommends that fluorescent lights be turned out if a space is unoccupied for 5 minutes. (IES Handbook, 8th Edition, 1993, Chapter 30, p. 856)

James C. Elledge has a Question and Answer column in Today's Facility Manager Magazine called Tricks of the Trade. He tackled the lighting energy myths issue. His response: the electrical surge is 1/120 of a second and energy savings and calendar life of bulbs is more important than the number of hours a bulb lasts. He also addresses the environmental benefits of turning off the lights.

Economics of Switching Fluorescent Lamps by Louis A. Carriere and Mark S. Rea

IEEE Transactions On Industry Applications, Vol. 24, No. 3, May/June 1988

Abstract- Based on side-by-side cost comparison of different switching options, including a combination of parameters biased against frequent switching, this study reinforces the idea that it is economical to turn fluorescent lamps off when they are not needed. Background information to explain the calculation procedures and a sensitivity analysis are included.

<http://ieeexplore.ieee.org/> and search for "switching fluorescents"

The Lighting Design Lab sponsored by the Northwest Energy Efficiency Alliance has an article at http://www.lightingdesignlab.com/articles/switching/switching_fluorescent.htm that has the longest recommended time to wait before switching fluorescents.

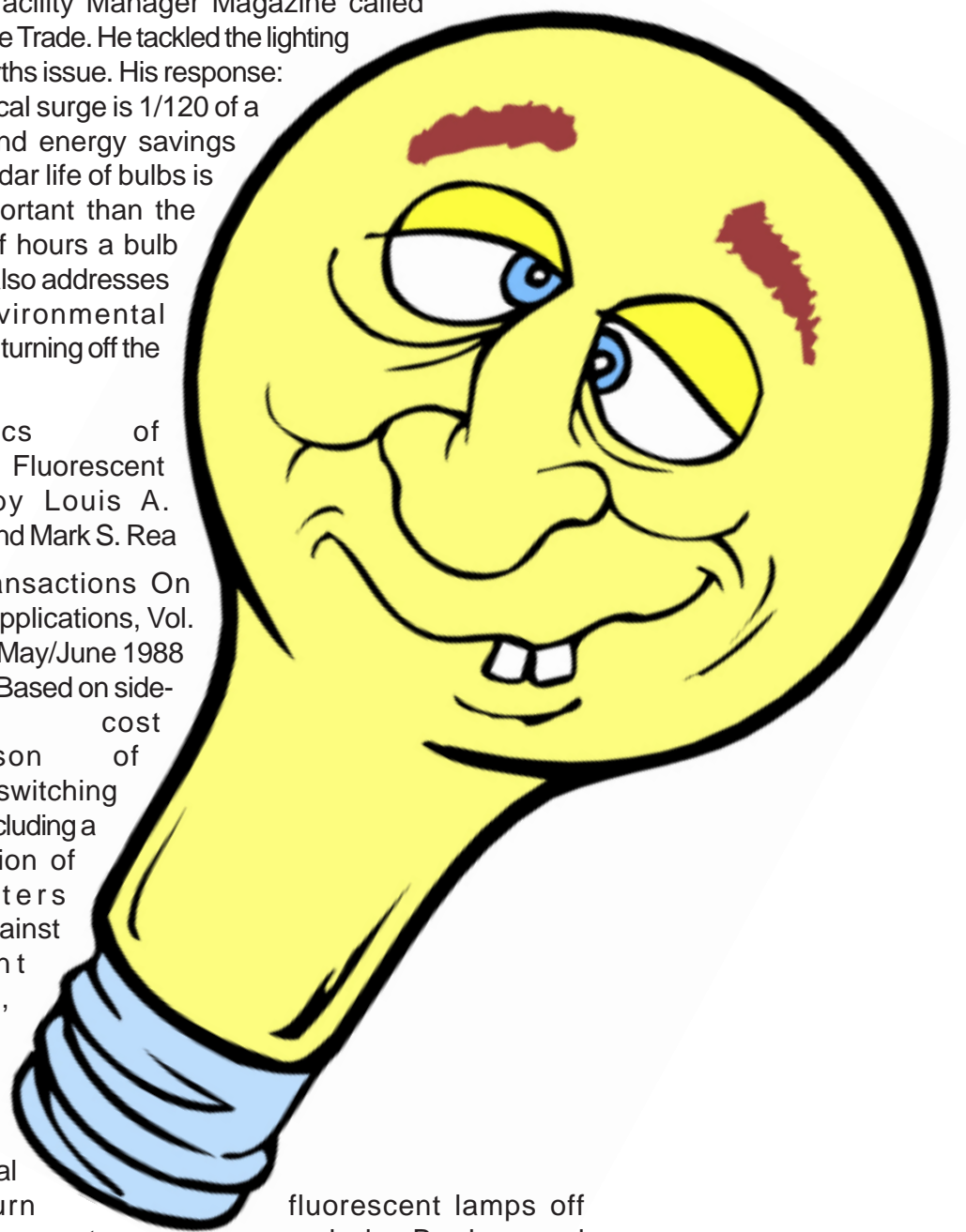
North Carolina Division of Pollution Prevention and Environmental Assistance (DPPEA) Has a four page analysis posted at www.p2pays.org/ref/36/35297.pdf

*Actually, the experts all say 5 minutes. Watt Watchers chose 10 minutes to eliminate any potential for nitpicking and allow for a spirit of compromise. Most school energy managers recommend turning out the lights whenever you leave the room regardless of how long you think you will be gone.



Q: DO YOU KNOW WHY MOST LIGHT BULBS RETIRE WEALTHY?

A: THEY REALLY KNOW HOW TO "SOCKET" AWAY.



*Actually, the experts all say 5 minutes. Watt Watchers chose 10 minutes to eliminate any potential for nitpicking and allow for a spirit of compromise. Most school energy managers recommend turning out the lights whenever you leave the room regardless of how long you think you will be gone.



How much is Energy Awareness Worth



Watt Watchers is about getting people to think. Your role as an Energy Manager is to get everyone in your school to consider energy in their everyday life. If everyone is aware of the consequences of using energy they will be more careful how they use it. There is value in knowing that leaving the fluorescent lights on in a classroom costs money and creates pollution. Think about this -if half of the 2.7 million teachers in the U.S. turned out their classroom lights on the way to lunch it would save \$34 million dollars every year. If energy is not considered it will be wasted.

But what do the experts say about the actual value of getting everyone to think about energy? Can a dollar figure be attached to Energy Awareness? Yes. It makes common sense that if energy is not considered it will be wasted and that if people stop and think they will save energy. Here's what a couple of sources have to say on the subject:

"Mount Pleasant ISD has an energy management program, and from 1995-96 through 1997-98, the district achieved an annual average of \$178,000 in cost avoidance. The district's energy management program focuses on educating people

about the importance of turning off devices or lights when not in use." www.window.state.tx.us/tspr/energy/ch2.html

"Through aggressive energy management, Wylie ISD reduced their utility budget by 12 percent between April 1, 1999 and April 30, 2000. As part of Wylie ISD's energy management program, they removed light bulbs out of the soft drink machines and saved about \$2,000 per year." www.window.state.tx.us/tspr/energy/ch2.html

"Turning off the lights may seem like an unimportant thing to some people. But when you think about all the things you could spend those savings on, it really makes sense. How hard is it to just switch off the lights?" said a college student who graduated from an energy saving school.

Implement Watt Watchers at your school and document the savings. Contact Watt Watchers at 1-888-USWATTS or by e-mail at info@wattwatchers.org and we will help

you figure out how much your Watt Watchers program will save your district and who has already started saving that money.

Think about this
 -If half of the 2.7 million teachers in the U.S. turned out their classroom lights on the way to lunch it would save \$34 million dollars every year.
If energy is not considered it will be wasted.

"My friend, the late Carl Sagan, used to say, 'If you had a globe covered with a coat of varnish, the thickness of the varnish would be about the same as the thickness of the earth's atmosphere compared to the earth itself.'"
"Indeed the Earth's atmosphere is so thin that we have the capacity to dramatically alter the concentration of some of its basic molecular components. In particular, we have vastly increased the amount of carbon dioxide - the most important of the so-called greenhouse gasses."
Al Gore,
An Inconvenient Truth,
2006.

FEMP Lights 2006

FEMP Lights online lighting course is presented by the Office of Federal Energy Management Program. This course is divided into a series of three online, self-paced courses allowing students to complete materials according to their own schedule. You can register individually for each of the courses, allowing you to choose the course that best suites your current lighting education needs.

FEMP Lights I: Issues
 This first course in the three course series presents an overview of lighting design and visual comfort issues, industry standards for lighting system performance, and calculation tools.

FEMP Lights II: Technology
 This second course in the three course series covers lighting technologies, energy consumption and maintenance issues, and a new module on daylighting.

FEMP Lights III: Projects
 This third and final course in the three course series discusses energy efficient lighting design strategies and addresses project management issues.

For more information go to www.femlights.com



Q: WHAT GRADE DID THE LIGHT BULB GET IN CIVICS CLASS?

A: AN A. SHE REALLY KNEW HER "CURRENT" EVENTS.

- § Watt Watchers is a free, state-sponsored program to help school districts save energy and money by getting students involved.
- § Students patrol the school looking for empty classrooms with the lights on. They turn out the lights and leave a ticket for the teacher.
- § It may sound trivial but...when the teacher forgets to turn out the lights an 2 extra hours a day, at lunch and after school for example, it costs the district \$50 every year.
- § Get your students involved. Save energy, save money, and prevent pollution.

Watt Watchers of Texas

1-888-US WATTS (1-888-879-2887)
 P.O.Box 68660, El Paso, Texas 79968 Fax: 1-888-879-2887
 e-mail: info@wattwatchers.org
<http://wattwatchers.org>

Your Name: _____
School Name: _____
School Address: _____
 (Free kit will be shipped to your school / Street address preferred)

City: _____ Zip: _____ - _____ County: _____
 School Phone: () _____ - _____ School Fax: () _____ - _____
 Email Address: _____
 Name of School District: _____
 Date: _____ Summer 2006

POWER IN THE GULF

Texas lands historic wind energy projects

Re-printed from the Comptroller's Fiscal Notes, June 2006

By 2009, wind-generated electricity will flow into Texas from 50 turbines built off the coast near Galveston.

Once the offshore turbines—the first of their kind in the nation—are up and pumping power to Texas, beachgoers should hardly notice them, according to Jim Suydam of the Texas General Land Office (GLO).

“The developers are looking at putting them about eight miles offshore,” he said. “That makes them about as big as a thumbnail when viewed from the coast, so they’re not real visible from shore.”

At full production, Texas can currently generate about 2,000 megawatts (MW) of installed electricity—or about 2 percent of its total energy use—from renewable energy sources such as wind. The 2005 Texas Legislature directed the state to increase that to 10,000 MW by 2025.

About 70 percent of Texas’ electricity generation is produced by natural gas, which won’t be around forever, according to Jerry Patterson, commissioner of GLO.

“It’s a depleting resource,” he said.

“This is part of the mix of things we have to do to address the fact that someday, oil and gas goes away.”

In May, the GLO announced the state’s second—and the nation’s largest—offshore wind farm, which will be built off the coast of Padre Island National Seashore. Houston-based Superior Renewable Energy will build and operate the wind farm, which will generate 500 MW of electricity—enough to power 125,000 homes. The project is expected to be running in five years.

Power to the people

One MW, or one million watts, can provide electricity for about 300 homes. At 3 MW apiece, the 50 wind turbines of the Galveston wind farm will crank out about 150 MW of electricity, enough for about 40,000 average homes, Patterson said.

The Galveston project, to be built by Louisiana-based Wind Energy Systems Technologies LLC (WEST), could be up and running within two years, according to Herman Schellstede, president of WEST. After some initial delays, workers completed underwater surveys on the 19-square mile lease to study the sea floor and determine where to build observation towers.

“It took us nearly six weeks to get [the surveys] completed,” he said. “The reason it took so long, ironically, [is that] we got blown out of the Gulf by the wind.”

Hurricane Katrina also slowed the survey work because ships and materials needed for the effort were tied up with recovery efforts in Louisiana and on the Gulf’s damaged oil platforms.

WEST’s first step on the project will be to build an observation tower on the north and south ends of the lease. In addition, one turbine will be installed as a test unit.

Together, the three units will measure wind speeds and direction, humidity and bird mortality for up to six months, Schellstede said.

“We’re trying to be very aware of the avian life,” he said. “We don’t want to damage any wildlife in any way, and we have to be able to determine how to account for any bird loss in the ocean.”

More studies are needed on the proposed wind farms’ possible effects on birds, according to Kathy Boydston, a program coordinator for the Texas Parks and Wildlife Department.

Boydston will manage a four-year study on bird-migration corridors along the Texas coast. The study aims to reveal the altitudes migrating birds fly under various conditions, Boydston said.

“What it’ll do is give us an idea of the altitudes birds are flying at under normal conditions,” she said. “Are they flying at that altitude if there’s a wind farm? Also, under adverse conditions, do they fly lower?”

WEST’s turbine design for the offshore project will differ from land-based turbines, Schellstede said.

“We have designed [oil] platforms for many years in the Gulf, so we know what we’re doing there,” he said. “We’ve come up with a design that includes a telescoping tower, and the turbines can be lowered from their operating height of 260 feet down to about 60 feet above the water.”



Once lowered, the turbine’s blades will fold into a cluster, protecting the unit against a category-four hurricane, which includes winds of up to 155 miles per hour.

Following the six-month, \$5 million test period, the \$220 million to \$240 million wind farm should be operational within two years, Schellstede said.

Ultimately, the commitment to more wind-power development is

good for Texas, according to Pam Groce of the Texas Comptroller’s State Energy Conservation Office.

“WEST feels like they have a design that will make offshore wind less costly than it already is,” she said. “They’re willing to make the investment, which is good all the way around.”

And GLO reports that WEST’s 30-year lease on its offshore sites will bring in more than \$26 million in revenue for the state’s Permanent School Fund.

Win-wind situation

The wind in Texas, particularly the wind offshore, makes the state ripe for wind-power expansion, Patterson said.

“We’re trying to be the leader in wind production,” Patterson said. “When looking at offshore, it would make sense to build and assemble in Texas. We’ve got the ports, the waterways and the infrastructure to do it. It just makes sense.”

The site’s location also helps deliver the power to the state’s electrical grid.

“A great thing about wind in the Gulf, it’s about eight miles from the grid,” Patterson said. “[With] wind power in far West Texas, you may have to build transmission lines 300 miles long at \$1 million a mile.”

The proximity to the grid minimizes that expense, Patterson said. And offshore wind power is more dependable during the daytime, when demand is at its highest.

“[Wind’s] got lots of things going for it, but the one that’s not is that you can’t turn it on and off when you need it,” he said.

Over the planned 30-year lease, the wind farm will save the state about 20.7 million barrels of oil or 6.5 million tons of coal, either of which would be needed to generate electricity for 40,000 homes, according to GLO. That reduction will eliminate the release of about 270,000 tons of carbon dioxide, 21,000 tons of sulfur dioxide and about 10,000 tons of nitrogen oxides.

That’s all part of the plan, Patterson said.

“Wind is clean, it produces no emissions,” he said. “Its cost is zero and will stay at zero. My goal is that whenever the wind is blowing, we can [leave] dormant all other methods of production. We should not be burning any hydrocarbons when the wind’s blowing.”



“We have everything we need to begin to solve the climate crisis – save, perhaps, political will. But in America, political will is a renewable resource. Each one of us is a cause of global warming, but each of us can become part of the solution: in the decisions we make on what we buy, the amount of electricity we use, the cars we drive, and how we live our lives. We can even make choices to bring our individual carbon emissions to zero.”

Al Gore,
An Inconvenient Truth,
2006.



Q: WHY DID THE LIGHT BULB QUIT HIS JOB?

A: HE JUST GOT BURNED OUT.

by Clint Shields

<http://www.window.state.tx.us/comptrol/fnotes/fn0606/power.html>



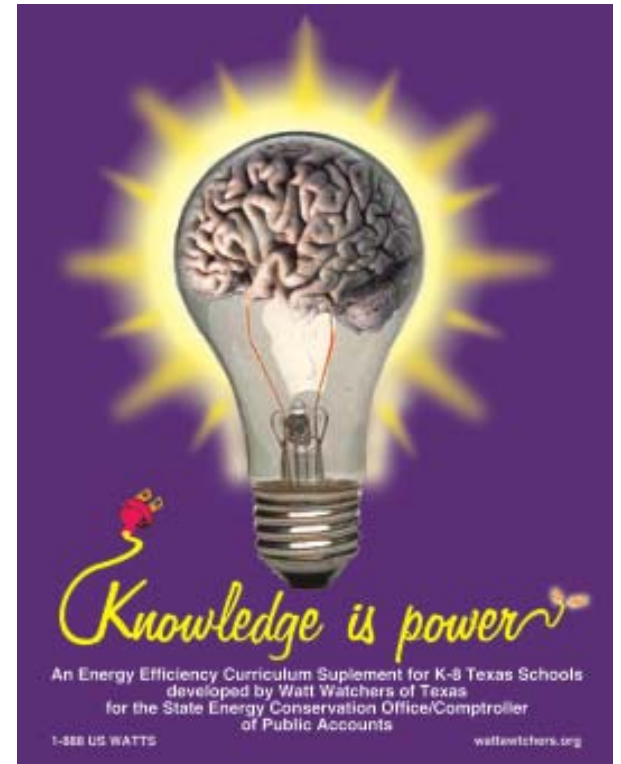
WATT WATCHERS PROGRAM DESCRIPTIONS



Watt Watchers has many programs to offer teachers that will enhance their Student Patrol Program. Below is a summary of these programs:

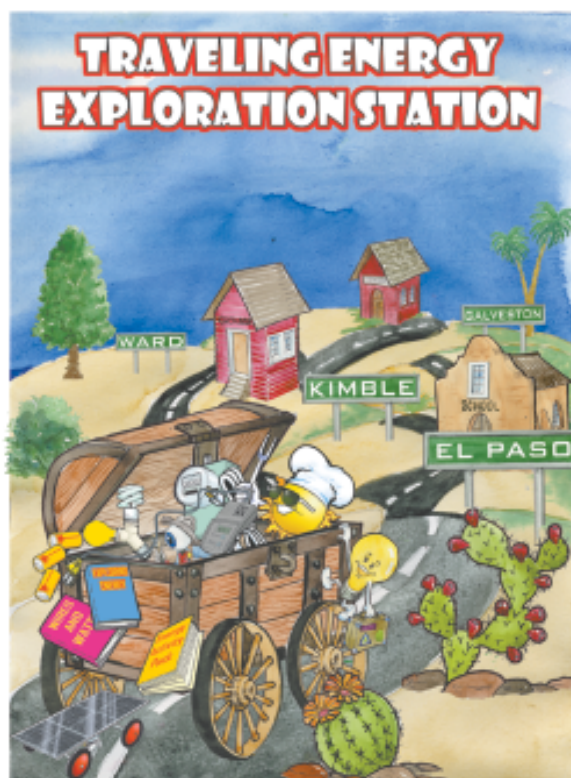
Knowledge is Power:

Knowledge is Power is an energy efficiency curriculum supplement for grades K-8. The lesson plans on energy conservation and energy efficiency are correlated to the TEKS and include starter activities, extensions, and discussion questions. The lessons range from coloring pages, and school lighting surveys to cost effective buying and appliance surveys. Knowledge is Power covers a broad subject range including math, science, social studies, and language arts.



Traveling Energy Exploration Stations:

The Traveling Energy Exploration Stations are boxes with lessons and lab supplies boxed together ready to set out for your students. The boxes also come with resources like books, videos and posters to teach electricity, solar cooking, renewable energy resources, energy efficiency, or the Junior Solar Sprint.

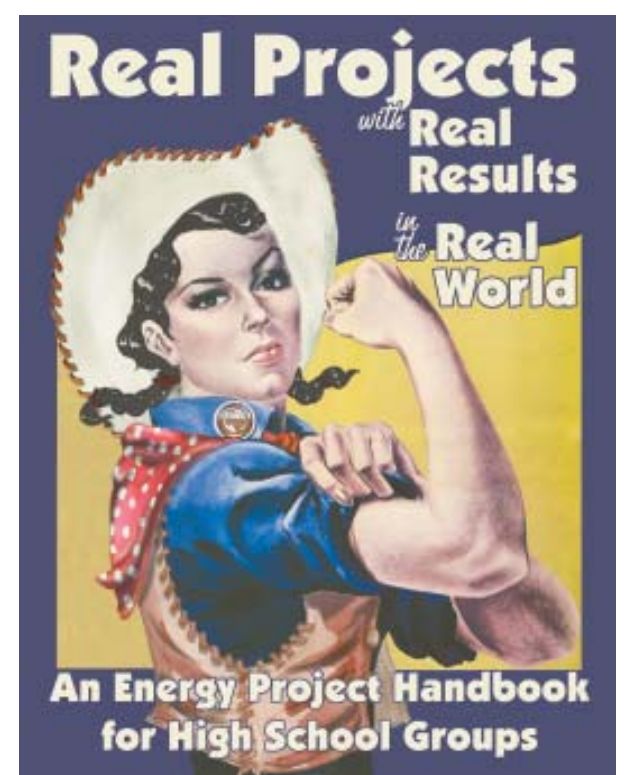


These stations can be checked out from Watt Watchers of Texas for two weeks at a time. The box will be shipped to your school at our cost. Don't worry about using up the supplies in the box, we will refill them when they get back to our office. Then we will have the box picked back up at your school, once again at our cost. There is no cost to you at all, no shipping fees, no rental fees, no reservation fees—totally FREE.

To reserve a Traveling Energy Education Station for your classroom, fill out a reservation form and fax it back to us. Reservation forms can be found on our website www.wattwatchers.org, on our CD-ROM and in most of our newspapers. Be sure to give us alternate dates you would like to have the station in your classroom, and to send in your reservation form early since we have a very high demand in the spring months.

Real Projects with Real Results in the Real World :

The Real Projects with Real Results in the Real World Handbook for high school student groups started out as

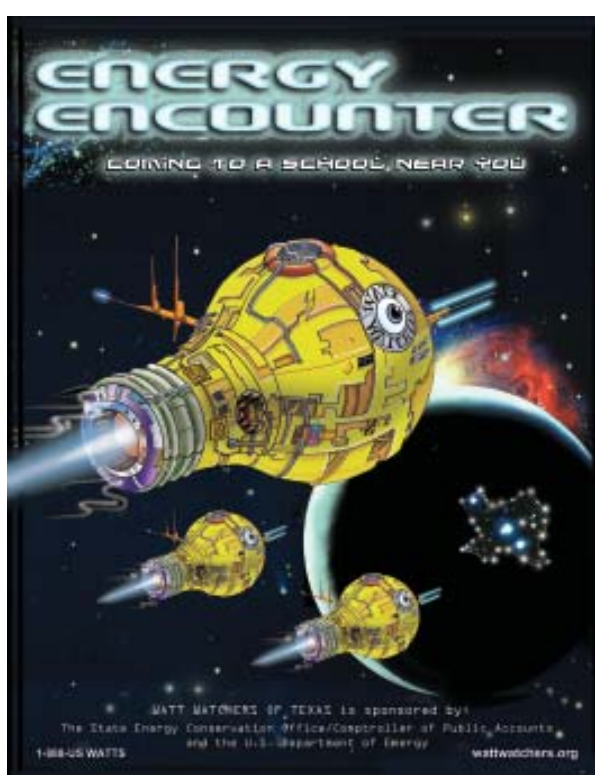


just that, a handbook. Like most things, it has taken on a new life—it's a program to help high school students do energy and environment projects in their schools and communities. Real Projects will soon have a traveling energy station for high school groups to check out and complete some real projects like doing a vending machine audit or a classroom lighting audit or implementing computer power management in your school district. This project is also supported by a workshop for students called Energy Encounters.

Energy Encounters:

Energy Encounters are workshops for high school students interested in doing energy and environment projects. The workshops lead students through missions that allow them to learn more about Real Projects with Real Results. The one-day Encounters are usually held in a high school so that we can work in our Real Environment.

Watt Watchers is in the process of creating an Energy Encounter-in-a-box workshop. This will allow a school to check out the box and present their own Encounter. All the Missions will be in the box with instructions on how to complete each one, so you can have an Encounter for your student group or host an Encounter for the schools in your area!



If energy effective relighting were accomplished in Federal office buildings, the benefit would extend above and beyond the energy savings. The mean value of improved productivity from effective relighting in the Federal sector has been estimated at \$1.64/SF per year, with a total annual value of \$640 million. While productivity improvements are not typically introduced into a payback scenario, these tremendous potential benefits indicate that all reasonable effort should be made to provide Energy Effective Lighting using Federal life cycle cost guidelines. (from: Economics of Energy Effective Lighting for Offices) http://www1.eere.energy.gov/femp/pdfs/economics_eel.pdf



Junior Solar Sprint:

The U.S. Department of Energy's National Junior Solar Sprint (JSS) Program is a classroom-based, hands-on educational program. Watt Watchers' goal is to bring JSS to Middle School teachers across Texas. We will be presenting workshops encouraging teachers to get involved in JSS. Teachers will learn to build a model solar car and race it against the other teachers in the workshop. Teachers will be provided all the information needed to start a JSS program in their district. The model solar car belongs to the teacher when he or she completes the class. The car is given to the teacher so that he or she can take it back to his or her respective district and show it to other district science teachers, leading to the district starting a JSS program.

Middle school students are invited to design, build and race Junior Solar Sprint (JSS) cars. The small model cars, powered entirely by solar energy and steered by wires, are built as team efforts guided by teachers. Working in teams of 2-4, each team is provided with a kit consisting of a solar panel and a motor. The students design the chassis and the transmission and build them out of any materials they wish. The finished car must have a removable solar panel. Students are

encouraged to use math and science principles together with their creativity in a fun, challenging program that stimulates enthusiasm for science at a critical stage in their education.

Computer Power Management:

The computers in your school are wasting energy and money. You can help your school by implementing Sleep Is Good. By implementing the power saving features on your computer monitor you could save \$20 per computer per year! Watt Watchers has teamed up with the EPA to bring

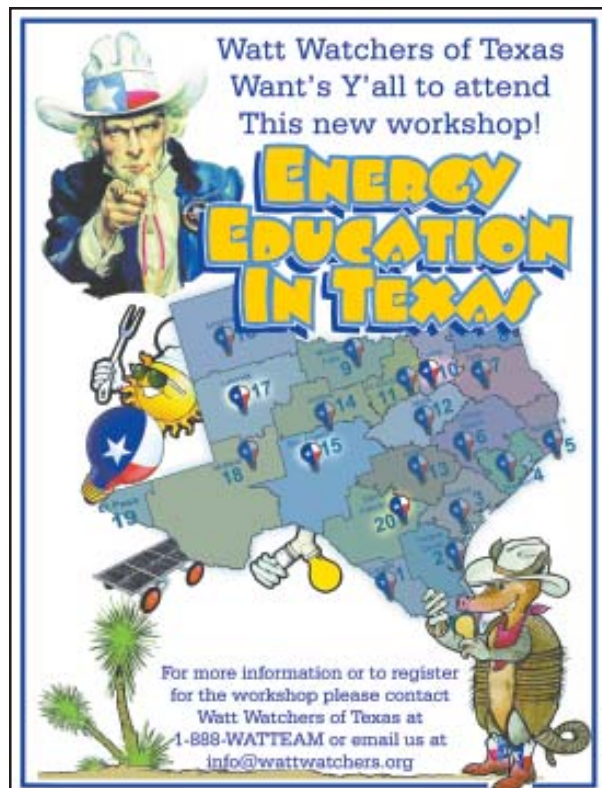
this program to Texas schools. You can implement the EZ Wizard program on individual workstations or implement the EZ Save program on all the computers in your district. It's all in a day's rest!

Energy Education in Texas Workshops:

Watt Watchers of Texas presents the Energy Education in Texas workshop across the state to deliver great new tools for teaching about energy. Teachers will learn about how to start a Watt Watchers of Texas program at their school, explore energy with the Traveling Energy Exploration Station, put their minds to work with the Knowledge is Power curriculum supplement, and much more. There is no cost to attend the Energy Education in Texas workshop.

The workshop will be 6 hours in length and every teacher will leave with a copy of the Knowledge is Power curriculum, a Junior Solar Sprint kit, Watt Watchers of Texas kit, and a lot of other freebies! Six hours of professional development credit will be provided.

To receive more information on any of these programs, please contact Watt Watchers of Texas at 1-888-USWATTS or by email at info@wattwatchers.org.



SUPPLY AND PUBLICATION ORDER FORM

KIT SUPPLIES

- Name tag cards
Insert for name badge holder on lanyard
- Watt Watchers pencils -imprinted
For students to use while on patrol
- Watt Watchers CD-ROM
The entire program on a disk
- Complete replacement kit
A whole new kit with a set of 4 of all materials

AWARDS & FLYERS

- Certificate of Achievement
Provide one to each student that participated during the year
- Zero Hero Award
Award for classrooms that always turn out the lights
- Most Improved Watt Watcher Award
Award for classrooms that change their habits
- Flyers
Set of all the 8-1/2x11 color flyers
- Color tickets and Thank you notes
For laminating to make permanent

PUBLICATIONS

- Watt Watchers of Texas Program Manual
How to start and run your Watt Watchers of Texas patrol, plus much more, 80 pages
- Knowledge is Power
An energy efficiency curriculum supplement for grades K - 8, 72 pages
- Sleep is Good – coming soon!
Monitor and computer power management for Texas schools. All enrolled Watt Watchers sponsors will automatically receive a copy.
- Real Projects in the Real World with Real Results
A handbook for high school student groups interested in doing projects that make a difference by saving energy, saving money and preventing pollution, 48 pages.
- King with the Terrible Temper – K-2 Energy Activity Booklet
Featuring "The King with The Terrible temper" a predictable story for coloring, 42 pages

Name: _____
 School: _____
 District: _____
 Email Address: _____
 Please return this form to Watt Watchers of Texas.

Fax: 1-888-USWATTS
 Mail: PO Box 68660,
 El Paso Texas 79668
 Email: info@wattwatchers.org

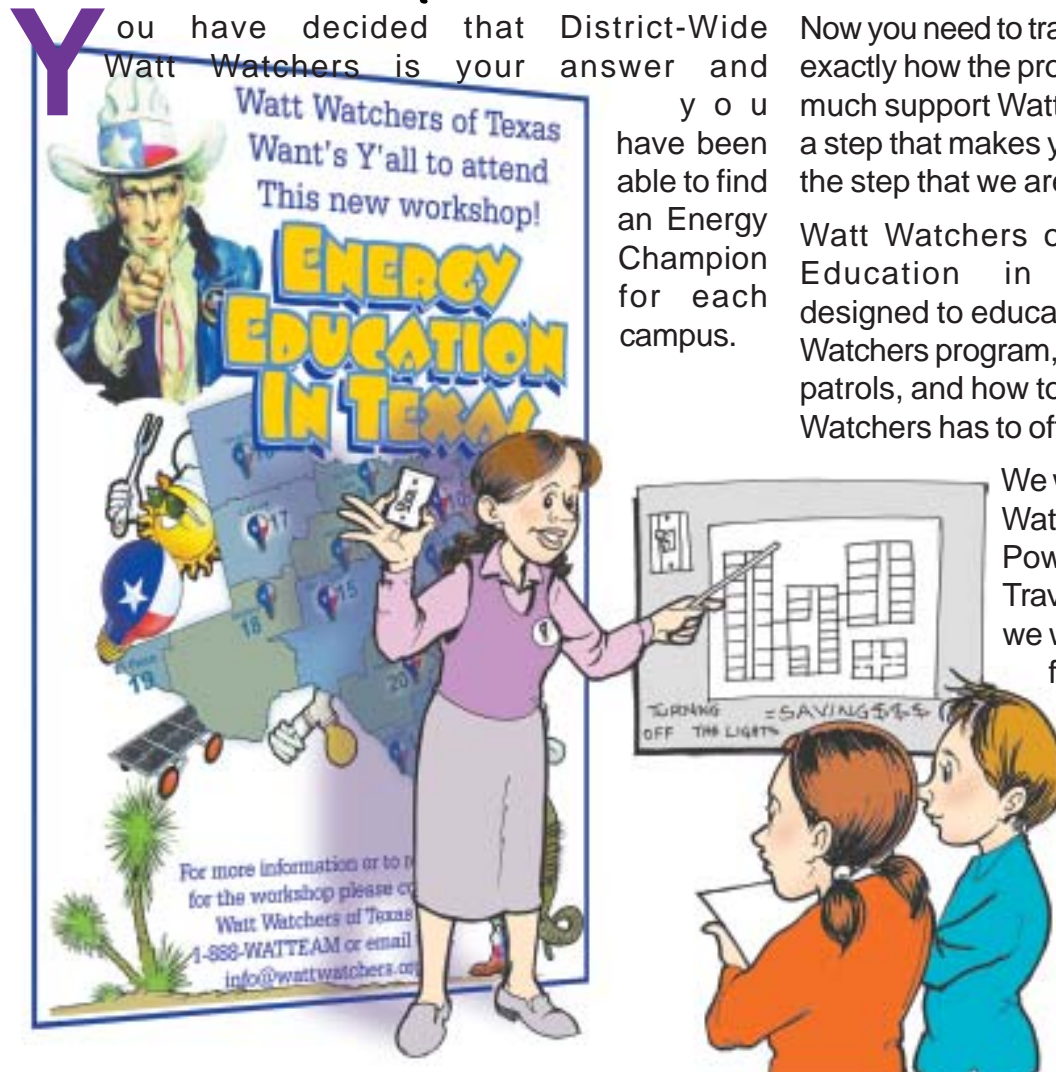
ENERGY EDUCATION IN TEXAS

educate your sponsors

You have decided that District-Wide Watt Watchers is your answer and you have been able to find an Energy Champion for each campus.

Now you need to train these champions so that they know exactly how the program works—how easy it is and how much support Watt Watchers has to offer. Maybe this is a step that makes you a little uncomfortable. Well, this is the step that we are ready to assist you with.

Watt Watchers offers a workshop called Energy Education in Texas. This workshop is designed to educate a teacher/sponsor about the Watt Watchers program, how to implement the student energy patrols, and how to use all the other materials that Watt Watchers has to offer Texas schools.



We will provide the teachers with their Watt Watchers kit, a copy of the Knowledge is Power Curriculum, information about the Traveling Energy Exploration Stations that we will ship to their school for them to use for two weeks, as well as provide them each with a Junior Solar Sprint kit.

To schedule a workshop for your district, please contact Watt Watchers toll free at 1-888-WATTEAM or by email at info@wattwatchers.org.

ENERGY ENCOUNTERS IN A BOX



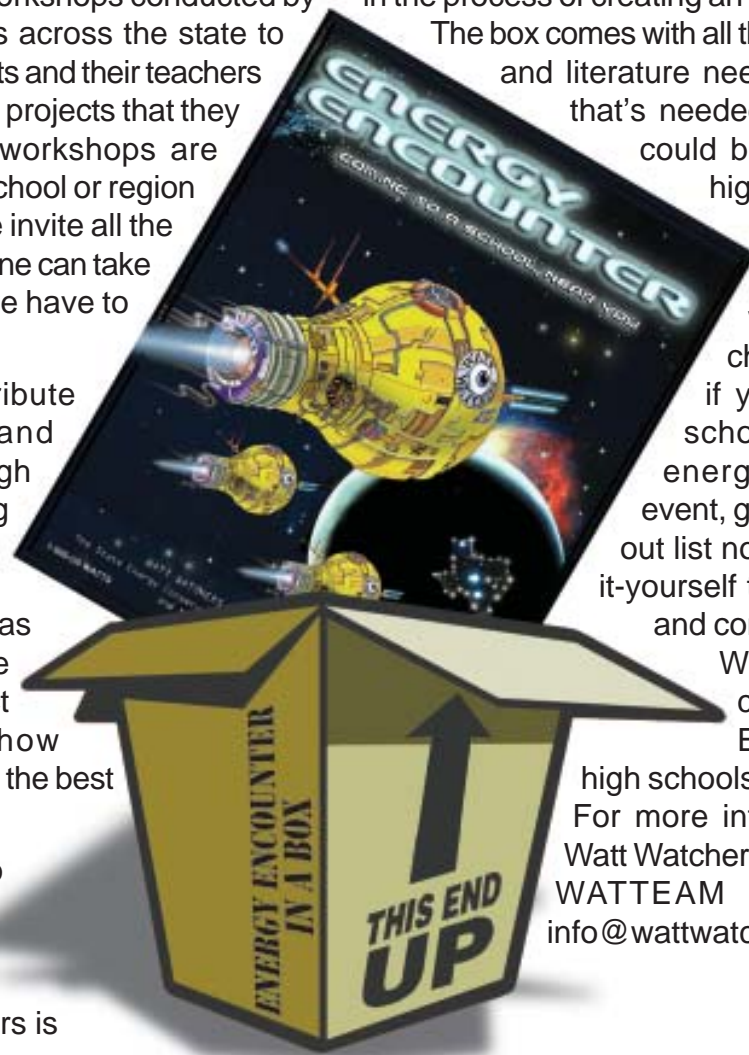
Energy Encounters are workshops conducted by Watt Watchers of Texas across the state to teach high school students and their teachers new and exciting energy saving projects that they can do at their school. The workshops are scheduled on a Saturday at a school or region service center in your town. We invite all the area high schools so that everyone can take advantage of the great ideas we have to share.

in the process of creating an Energy Encounter in a Box.

The box comes with all the props, slide shows, tools, and literature needed for the workshop. All that's needed is the presenter—which could be the Energy Manager, a high school student group, or a teacher.

This workshop in a box will be ready for schools to check out in September, so if you want to start the new school year with a dynamic, energy-saving, team-building event, get your name on the check-out list now. Or, if you're not the do-it-yourself type, think outside the box and contact us to schedule a Watt Watchers coordinator to conduct an Energy Encounter workshop for the high schools in and around your district.

For more information, please contact Watt Watchers of Texas toll free at 1-888-WATTEAM or email us at info@wattwatchers.org



Paper comprises 60% of a schools waste stream and a logical place to start when implementing school recycling programs. Removing paper from the trashcan to the recycle bin decreases disposal costs and increases environmental benefits. Every ton of paper recycled saves: 17 trees 6,953 gallons of water 587 pounds of air pollution 3.06 cubic yards of landfill space 4077 kilowatt hours of energy from: <http://www.resourcefulschools.org/index.html>

Energy Managers can contribute valuable information and tremendous motivation through these workshops. By teaching the students about projects that you are doing to help reduce energy waste in your district as well as educating them on the amount of energy your district uses, the students see how everyone can make your district the best Watt Watcher district ever!

Perhaps you would like to participate in this workshop but there is not one currently scheduled in your area. We have the answer. Watt Watchers is

WATT WATCHERS OF TEXAS

AWARD Order Form

School: _____

School District: _____

Name of Sponsor: _____ Number of Certificates: _____

____ Certificate of Achievement

____ Zero Hero Award

____ Most Improved Watt Watcher

Send Form to:
Watt Watchers of Texas
PO BOX 68660
EI PASO TX 79968

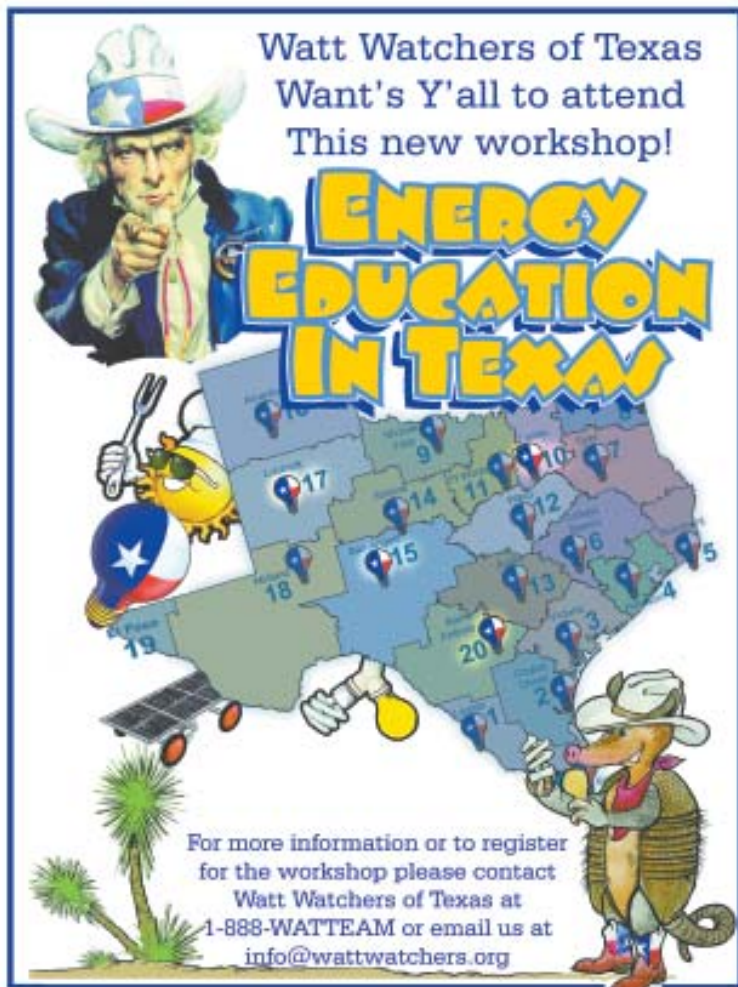
Or Fax to:
1-888-USWATTS or 915-747-5317

CALENDAR OF EVENTS FOR SUMMER 2006



Energy Education in Texas Workshops

Watt Watchers of Texas has several workshops planned for the upcoming months. If you don't see one for your area, and you would like to attend, you could host a workshop. Gather some friends and give us a call, we would love to set up a workshop for your district.



August 11th Nacogdoches - Nacogdoches ISD contact Marla Pickard to register
 October 12th San Antonio - Region 20- registration through ESC Region 20

Junior Solar Sprint Workshop

October 21st - Fort Worth
 Museum of Science and History -
 registration through FWMSH Saturday Educator Workshop Series



Residential Energy Code Workshops

Sept 1, 2005 - August 31, 2006

The on-going progressive residential energy code training currently in place in Texas as part of the education and outreach effort of the energy codes and standards program, is based on the 2003 International Energy Conservation Code (IECC). Training also focuses on simplified compliance path approaches based on the use of the REScheck software, as developed by Pacific National Northwest Laboratory for the U.S. Department of Energy (DOE). The 77th Texas Legislature established uniform residential building and energy codes in Texas in 2001. The 2003 IECC is still new to most Texas builders, city building officials, architects, and engineers. SECO, through the U.S. DOE Special Projects program and in cooperation with Texas A & M University, is funding a series of residential energy code workshops in various cities throughout the state of Texas to help disseminate the needed information for compliance with the energy segments of these codes.

7th Annual Renewable Energy RoundUp and Green Living Fair

September 22-24 - Fredericksburg, Texas
 Co-sponsored by SECO, the Roundup offers three full days of Solar - Wind - Water Use & Reuse - Energy Conservation - Rainwater Harvesting - Green & Sustainable Building - Organic Growing - Alternative Transportation - Straw Bale Construction - Exhibits - Free Guest Speakers - Food - Music - Family Activities.



Alternative Energy Curriculum Supplement Workshops

There is still time to earn CPE credit this summer. SECO is offering three more workshops before the beginning of the fall semester and scheduling of fall workshop has begun. As workshops become available they will be posted on this page. For more information call Juline Gurasich at (512) 936-9283 (toll-free at 1-800-531-5441, ext 3-1837) or email juline.gurasich@cpa.state.tx.us. Teachers attending workshop receive a free CD, which includes 25 hands-on investigations/activities, web resources and numerous flash animations. There are 6 hours of CPE credit given to workshop attendees.
 July 21, 2006 - Region 10 Service Center - Richardson
 July 26, 2006 - UT Summer Seminar - Austin
 Oct 18, 2006 - Region 19 Service Center - El Paso
 Nov 1, 2006 - Region 10 Service Center - Richardson
 Nov 6, 2006 - Region 12 Service Center - Waco

Air Quality 2006: Energy Leadership & Emissions Reduction Conference

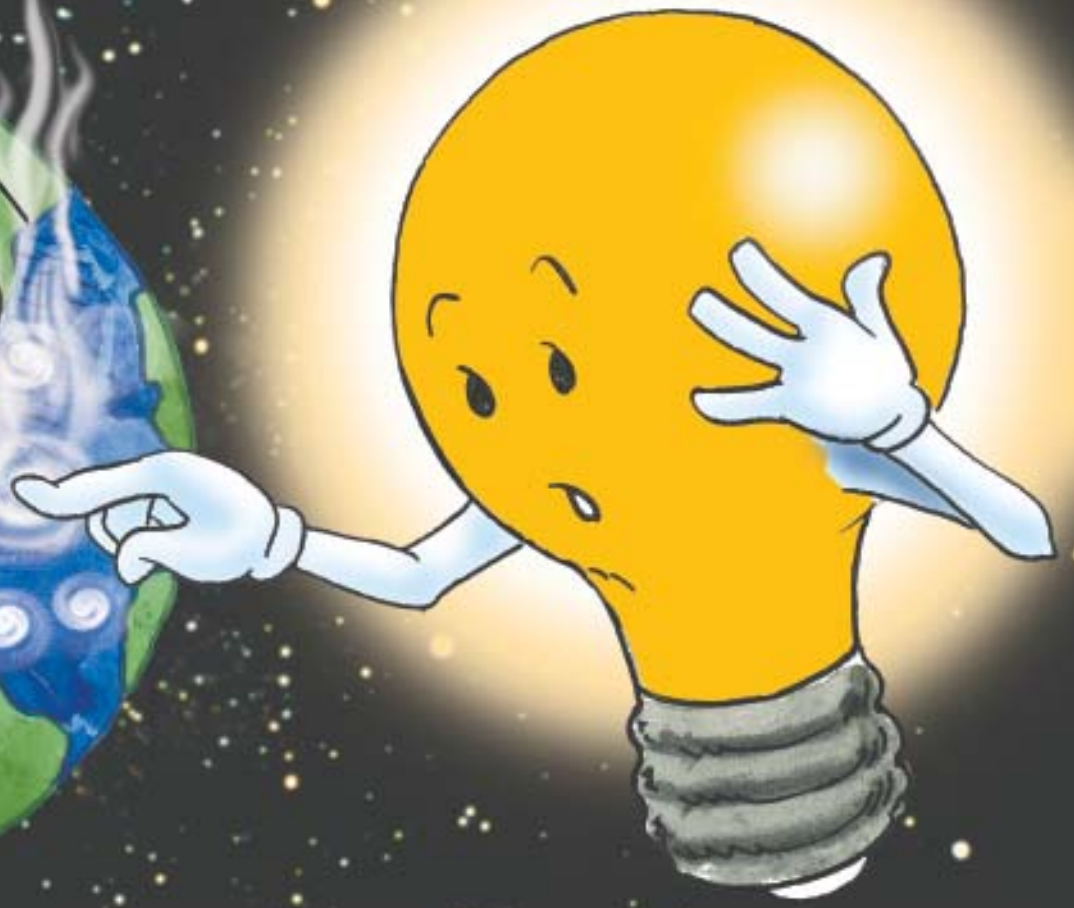
<<http://airquality2006.tamu.edu/>>
 Hilton University of Houston - Houston, Texas - October 10-13, 2006
 Hosted by the Energy Systems Laboratory of Texas A&M University System and the Texas Commission on Environmental Quality. This forum provides a focus on energy efficiency and renewable energy strategies for cleaner air, recognizing development and the built environment as resources for broad, cost-effective solutions. This year's theme will be "Creating the Clean Energy City." In attendance will be state and local decision-makers, problem-solvers, planners, project developers, utility and energy service experts, environmental advocates, energy managers, and building industry professionals engaged in improving regional air quality through energy efficiency and renewable energy strategies. Learn about community leadership initiatives and successes and how you can participate in creating a clean energy city!

Conference for the Advancement of Science Teachers (CAST)

November 9-11 - Wichita Falls, TX
 Don't forget to stop by the Watt Watchers booth at this year's CAST event.
 We will have workshops and classes for those that can't make it to a Energy Education in Texas workshop.

Refrigerants with ozone-destroying chlorofluorocarbons (CFCs) were common in older chillers but are no longer used in new equipment. The 1992 Montreal Protocol banned the production of CFCs in the U.S., beginning in 1996. Much of today's equipment uses hydrochlorofluorocarbon (HCFC) refrigerants, which have a much lower ozone-depleting effect. There are also many energy-efficient chillers on the market that use hydrofluorocarbon (HFC) refrigerants, with no ozone-depleting effect. Many facility managers are opting for early replacement of existing chillers with high efficiency units using non-CFC refrigerants. Good candidates for "early retirement" are CFC-based chillers with poor efficiencies or histories of high maintenance cost. Energy cost savings can add to the environmental benefits of non-CFC refrigerants. (Excerpted from: "How to Buy an Energy-Efficient Water-Cooled Chiller" FEMP) http://www.eere.energy.gov/femp/procurement/eep_wc_chillers.cfm#buyertips

OUCH!
YOU'RE BURNING ME!



INCANDESCENT BULBS ARE ONLY ABOUT 10% EFFICIENT. 90% OF THE ELECTRICITY USED ENDS UP AS WASTE HEAT. EPA- "IF EVERY HOUSEHOLD IN THE U.S. REPLACED ONE LIGHT BULB WITH AN ENERGY STAR QUALIFIED COMPACT FLUORESCENT LIGHT BULB (CFL), IT WOULD PREVENT ENOUGH POLLUTION TO EQUAL REMOVING ONE MILLION CARS FROM THE ROAD.

WWW.ENERGYSTAR.GOV

Watt Watchers of Texas

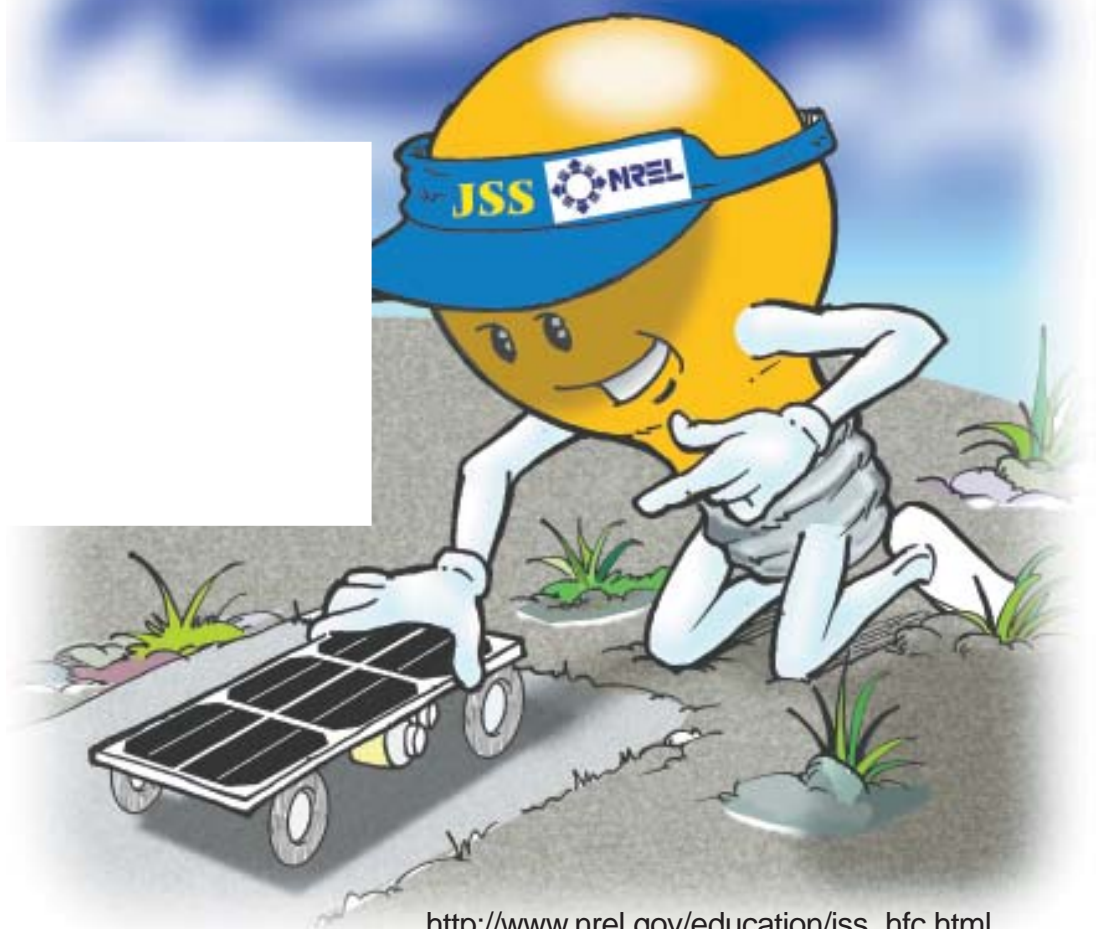


The Energy Center
University of Texas at El Paso
P.O. Box 68660
El Paso, Texas 79968

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- Student Council
- Librarian
- Energy Manager



http://www.nrel.gov/education/jss_hfc.html

Summer 2006 <http://wattwatchers.org>
1-888-US WATTS