



# SERT Flash

School Energy and Recycling Team



## Revamping by De-lamping

### B-CC High School Reduces Energy and Carbon Footprint

Are you looking for ways to improve your energy savings?

Alain Perron, building services manager, at B-CC High School, sought assistance from SERT to identify energy savings opportunities.

SERT recommended a best management practice called “de-lamping.” In an effort to conserve energy and provide appropriate lighting levels a light meter is used to measure foot candles, a unit of measure in lighting. When lighting levels in the classrooms exceed the recommended amount there may be an opportunity to remove one light tube and reduce energy consumption while maintain appropriate lighting levels. Before removing light tubes please contact SERT to measure lighting levels. You should not take lamps out of new fixtures under warranty. De-lamping is possible anywhere there is a fluorescent light fixture above an area that is not being used for active reading and writing or in areas where there is more light than needed. This could be: along windows, around doors, corners, over computers, televisions, hallways, and equipment.



Having seen the tremendous savings a building can accrue by de-lamping his former school, Takoma Park MS, Mr. Perron was eager to coordinate one of the most comprehensive de-lamping efforts in MCPS. Mr. Perron consulted with his SERT Facilitator, DJ Connelly, and they began to take light measurements around the building. Once Mr. Connelly confirmed that it was possible to reduce lighting levels without compromising lighting needs and requirements, building service staff member, Mr. Duane Chase, volunteered to de-lamp the school. Mr. Chase approached this large project with a positive attitude, understanding the impact it would have on the environment, the school, and all of MCPS. With efforts like these, MCPS is able to save thousands of dollars by reducing our electricity bills, our carbon footprint, and our consumption.

Did you know that approximately one-third (1/3) of a building’s electricity use comes from lighting? For a large school such as B-CC High School, de-lamping could save about \$8,000-10,000 per school year. Simple strategies and outstanding efforts like these help the county in more ways than one. Not only can we reuse the energy savings for other important academic programs, the conservation of energy is helping save natural resources, reducing our carbon footprint, and making our world a cleaner place to live! SERT would like to thank Mr. Perron for coordinating this project, the administrators at B-CC High School for green-lighting this project, and to Mr. Chase for his dedication in completing this project. Thank you B-CC Barons!



Do you have a “SERT Flash” you would like to share about your SERT efforts? Please submit a picture and paragraph about your team and you too can be featured in a future FLASH!

“It’s your world...choose to conserve”



# SERT Flash

School Energy and Recycling Team



## Natural Lighting Saves Energy!



Gaithersburg Elementary School:  
(L-R) Mr. Ruthven Cooper, Building Service Manager; Ms. Niki Hazel, Principal; Mr. Joseph Rowe, Assistant Principal

### Did you know that approximately one third of a buildings energy use comes from lighting?

Gaithersburg Elementary School saves energy by leaving hallway lighting off on sunny days! Taking advantage of natural day lighting from windows and existing emergency lighting provides enough illumination to meet the needs of the students and teachers at Gaithersburg Elementary School. These efforts are recognized and supported by their team including Principal, Ms. Niki Hazel, Assistant Principal, Mr. Joseph Rowe, and Building Service Manager, Mr. Ruthven Cooper. When visiting the school, SERT notices that on most days hallway lighting remains off. We appreciate Mr. Cooper who has been following this strategy for years which keeps their energy use down. Remember the best way to conserve is not to use.

Taking advantage of natural day lighting and assessing needs along with preferences allows most schools to adjust their lighting use. Mr. Dwight Brown, building service manager, at Sally K. Ride Elementary School practices lighting conservation strategies too.

Consider the lighting needs in your school while taking advantage of natural daylight. SERT can provide light meters for students and staff to explore the building. Adjusting lighting levels by measuring foot candles with these meters can save energy and be a fun educational activity for all who are involved.



Other opportunities for saving energy through lighting manipulation can be taken advantage of by simply delaying the time the lights are turned on in the morning.

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SERT Program- 240-314-1090

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School Energy and Recycling Team



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## Light Switch Signage Saves Energy!



Glenallan Elementary School  
Gator Green Team Students Turning Off the Lights

Did you know that approximately one-third of school buildings electricity use comes from lighting?

Encouraging students and staff to turn off lights in unoccupied rooms helps conserve energy and resources that can be redirected to educational initiatives. One way to encourage turning off the lights is to post student-created light switch covers.

The Glenallan Elementary School SERT/Green Team saves a significant amount of electricity through encouraging energy-aware behavior by posting handmade light switch covers. These colorful covers are fun for students to make and also remind others to turn off the lights when leaving the room. Remember, turning the overhead lights off even for a few seconds saves energy.

Montgomery County Public School (MCPS) has almost 8,000 classrooms. If classroom lights are left on accidentally for two hours each academic day this could cost the school system an average of \$400,000 per year. Imagine how much we can save if we each do our part to turn off the lights when they are not needed.

Making switch plate covers is a fun and rewarding activity for the SERT/Green Team. It is something that can be done during an indoor recess or even at home. Once completed, SERT recommends laminating the switch plate signage so it can be used more than one year.

If your SERT Team would prefer to post a readymade sign or use the SERT template to make your own, please visit the SERT [link](http://www.montgomeryschoolsmd.org/departments/facilities/greenschoolsfocus/pdf/sertswitchcover.pdf) below and get creative.

SERT would like to thank the Glenallan ES SERT Team, Principal Miss. Ronnie Fields, Mr. Ronald Fox, Ms. Gloria Ralph, Mrs. Barbara Templin, and the Gator Green Team students for sharing their creative energy saving ideas.

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# SERT Flash

School Energy and Recycling Team



**Northwest High School is always looking for new ways to save energy!**



The Administrative Team at Northwest High School helps make the difference  
**(L-R) Mr. Tim Britton, Mr. James D'Andrea, Mr. Matt Niper, and Mr. John Robertson**

The administration at Northwest High School actively leads and supports comprehensive energy conservation efforts throughout the school, starting with Ms. E. Lancellotti (Lance) Dempsey, principal. Northwest High School leads the way in pro-active energy conservation strategies that SERT recommends to all schools—turn it off when not in use.

Mr. Michael W. Bednarcik, physical education resource teacher at Northwest High School, turns off the lights in the main gym, as well as auxiliary gyms, when the students are using the outside fields or when there are no scheduled classes. Mr. Bednarcik pointed out that it only requires a few minutes for the lights to come up to full brightness; he merely turns on the lights five minutes before a class begins. This effort helps reduce the waste that keeps Northwest High School in the running for SERT awards.



Mr. Mike Bednarcik  
PE Resource Teacher

The average high school gym costs between \$1,800 and \$3,000 to power the standard gym lighting. Thanks to Mr. Bednarcik and the entire team at Northwest High School we are reducing energy use, greenhouse gas emissions, and our operating costs.

Individual efforts make a difference—it can be you!

Do you have a “SERT Flash” you would like to share regarding your SERT efforts? Please submit a photograph and paragraph about your team and you too can be featured in a future FLASH! E-mail: [SERT@mcpsmd.org](mailto:SERT@mcpsmd.org) or call the SERT office at 240-314-1090.

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# SERT Flash

School Energy and Recycling Team



Randolph Maintenance Depot Electric Shop has a **“Bright”** Idea!

*SERT appreciates the innovation demonstrated by all of our maintenance depots!*

The Randolph Maintenance Depot is initiating replacement installations of energy-efficient lighting throughout their area where applicable. The electrical staff, lead by Mr. Jack Lewis, electrician area supervisor, are busy replacing high intensity discharge (HID) lamps and ballasts and high-pressure sodium (HPS) lamps and ballasts with 120 volt and 277 volt compact fluorescent lamps (CFL).

By indentifying these opportunities at their schools and taking advantage of this new technology the Randolph Maintenance Depot electric shop staff is saving valuable resources (time, money, and the environment) along with reducing maintenance costs for Montgomery County Public Schools (MCPS). Once the replacements are complete the future lamp replacement is as simple as screwing in an energy-efficient CFL light bulb.

Remember, a CFL

- can save up to \$30.00 over its lifetime,
- will pay for itself in 6 months,
- uses 75% less energy than an incandescent bulb,
- must be recycled.

The School Energy and Recycling Team (SERT) office would like to thank the Randolph Maintenance Depot for their initiative and another “bright” idea.

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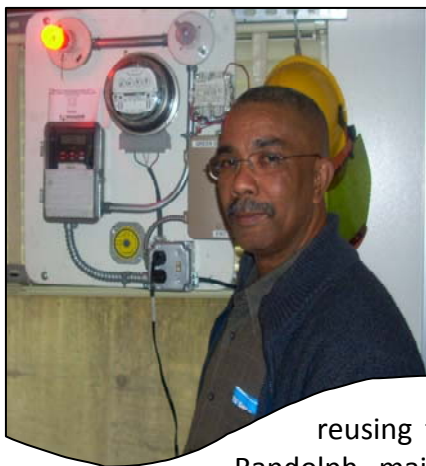
# SERT Flash

School Energy and Recycling Team



## More Bright Ideas from Maintenance

The Randolph maintenance depot electric shop has had many “bright” ideas over the years and they continue the tradition with yet another.



The Randolph maintenance depot is initiating replacement installations of energy-efficient lighting throughout their schools where applicable. Led by Mr. Maurice Wade, the electric shop area supervisor, his staff are busy replacing high intensity discharge (HID) lamps and ballasts with 120 volt 32 watt fluorescent ceiling fixtures from school buildings that are being dismantled for renovation. Yes, they are reusing!

By identifying these opportunities at their schools and reusing fixtures rather than sending them to the scrap yard, the Randolph maintenance depot electric shop staff is saving valuable resources (time, money, and the environment) as well as reducing maintenance costs for Montgomery County Public Schools (MCPS). Once a school’s replacement is complete, it is as simple as snapping in a regular 32 watt fluorescent light tube. The benefit of reusing these lamps is saved resources that can be placed back into the classroom.

It is a win-win situation for everyone.

The School Energy and Recycling Team (SERT) office would like to thank the Randolph maintenance depot for their initiative and another “bright” idea.



Demonstrating their commitment to students one lamp at a time.

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School Energy and Recycling Team



## Awarding “Good Light Bulb” Behavior at Sally Ride Elementary School



(L-R) Ms. Katherine LoCurto, staff, Christman Schafer, 5<sup>th</sup> grade student, Ms. Renee Parks, staff

The School Energy & Recycling Team (SERT) Team at Sally Ride Elementary School is excited to continue their “Light Bulb Award” incentive program this school year to help save energy at their school. The Sally Ride ES students use their motto, “Eagles Recycle!” to promote outstanding resource conservation behavior among the students and staff.

The student members of the SERT team monitor the schools energy use by circulating through the building every day, checking on unoccupied rooms to make sure their classroom lights are off. If the students find an empty classroom with the lights off, they tape a laminated picture of a light bulb to the door. On Thursday afternoons, the students collect the light bulbs and record the room numbers on a spread sheet. The “Light Bulb Award” winners are announced, by 5<sup>th</sup> grade student, Christman Schafer, weekly and monthly on the morning TV program, “Eagles on the Air”. The winning classrooms also get an “Outstanding Light Bulb Award Winner” laminated light bulb picture to display in their classroom. This program is making a difference as Sally Ride ES is often awarded by the SERT Program for their energy savings.

The SERT Program wants to thank Christman Schafer, for stepping up and promoting this great program, and the entire SERT Team at Sally Ride ES, for being excellent energy conservation ambassadors and role models. At Sally Ride ES, students make the difference.

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# SERT Flash

School Energy and Recycling Team



Springbrook HS Science Teacher, Ms. Diane Niedzialkowski is installing floor lamps in computer labs at Springbrook HS

The Springbrook High School Green Team and Environmental Science class students, under the guidance of science teacher Ms. Diane Niedzialkowski, are working to make a difference to help preserve our environment. The students are in the process of adding energy-efficient floor lamps, supplied by the SERT office, to all computer labs at Springbrook HS. The expectation is that when students are working in the labs they will use these 23 Watt lamps vs. overhead lighting. The floor lamps come with Compact Fluorescent Lamps (CFL)! Using the floor lamps to provide lighting for the computer labs, instead of using the overhead fluorescent lighting, will reduce the electricity used by ~ 85% -- imagine the benefits.

This strategy and use of technology saves a tremendous amount of energy and reduces the schools overall carbon footprint. Other benefits include reducing eye strain sometimes resulting from the glare from the overhead lights. This is a great example of *sustainability in action*: environmental, economical, and social benefits are all covered by this strategy.

**WOW moment:** When installing the floor lamps one student working at a computer station was overheard saying "Wow, this is really cool. I love these new lights" .....GO BLUE DEVILS!

If you and your SERT/Green Team are interested in installing floor lamps in your school computer labs, please contact the SERT office for more information at 240-314-1090 or e-mail [SERT@mcpsmd.org](mailto:SERT@mcpsmd.org) .

Do you have a "SERT Flash" you would like to share about your SERT efforts? Please submit a photograph and paragraph about your team and you too can be featured in a future FLASH!

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# SERT Flash

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## Task Lighting Saves!

### Standard Classroom Lighting

1500 watts



### Task Lighting

23 watts



Do you want to help save energy and reduce our carbon-footprint?

Try using a task lamp that properly illuminates a work surface providing the perfect amount of light for desk related tasks. SERT encourages teachers to use task lamps when possible to reduce our carbon footprint, costs, and consumption. Opportunities exist during planning periods, before and after school, and when using projectors/Promethean boards for task related needs.

#### Let's compare the savings:

On the left is a photo of Ms. Hudson's classroom using an average of 1,500 watts per hour to light her classroom. For the two hours that students are not in the classroom, the lights use 3 kWh (kilo-watt-hours) a day; 540 kWh annually of unnecessary energy use and incurs \$75 in energy costs. By using a task lamp during non-teaching hours, **each** classroom could save up to \$73 annually and reduce our carbon footprint by .37 metric tons of CO<sub>2</sub>.

On the right is a photo of Ms. Hudson using a task lamp with a 23 Watt compact fluorescent bulb (CFL) costing less than \$2.00 per year to use. If a school with 30 classrooms used task lamps for 2 hours a day for an academic year, the energy savings would be \$2,200 with a carbon reduction of 1.10 metric tons of CO<sub>2</sub>.

Please feel free to use our watts calculator on-line to measure energy use of other electrical appliances and fixtures in your classroom.

<http://montgomeryschoolsmd.org/departments/facilities/greenschoolsfocus/docs/wattscalculator.xlsx>

What about 6,000 classrooms? Act locally—think globally

For task lamp ordering information please visit:

<http://www.montgomeryschoolsmd.org/uploadedFiles/departments/facilities/greenschoolsfocus/TaskLampFlyer.pdf>

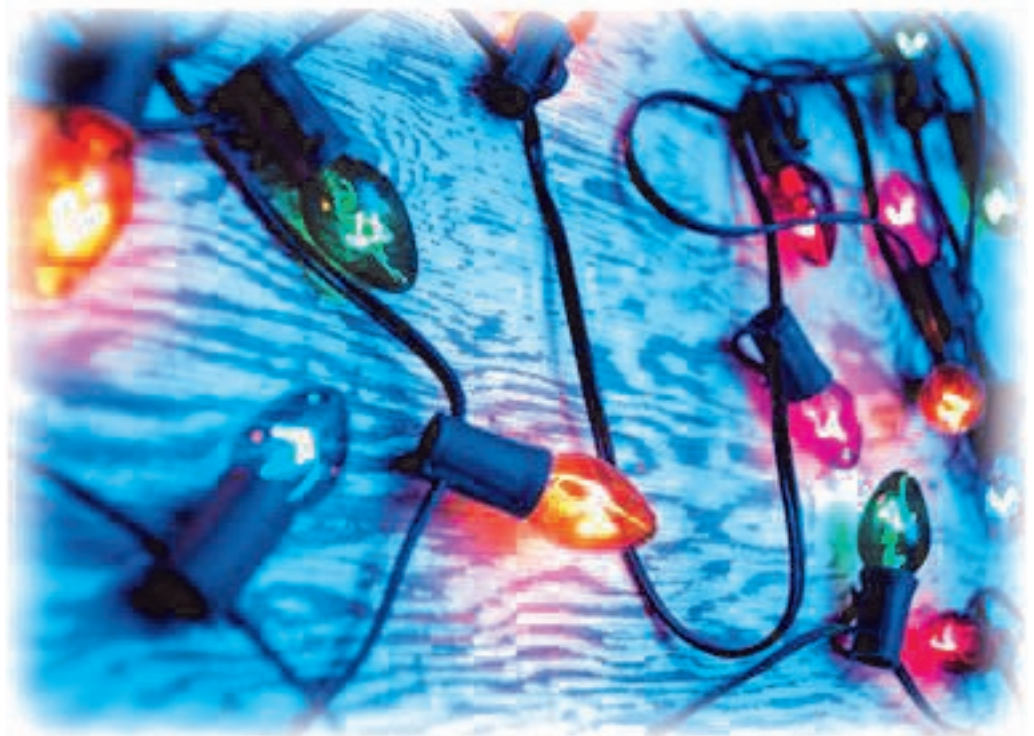
Contact [SERT@mcpsmd.org](mailto:SERT@mcpsmd.org) with your conservation strategies so we can Flash you!



# SERT FLASH

School Energy and Recycling Team

## SERT and ECO Green Lighting for the Holidays



### MCPS SERT Program

Dept. of Facilities Management  
45 W. Gude Drive  
Suite 4000  
Rockville, MD 20850  
240-314-1090  
301-279-3005, fax

December 2014  
SERT

**W**inter is a time filled with lights for celebrations of all kinds. Lights are used as decorations inside and outside of our homes, schools, and stores. But how much electricity are these lights using? The Department of Energy estimates that holiday lights account for 2.22 terawatt-hours (TWh), which is approximately the energy consumed by 200,000 homes all year long. One TWh is equivalent to 1,000,000,000 kilowatt-hours (kWh), which is the standard measurement used on SERT's data charts. These data charts track electricity consumed by our schools. Click [here](#) to see how much electricity your school is using.

Please consider replacing any incandescent bulbs with LED lights. LED lights are much more energy-efficient, using a fraction of the electricity needed for incandescent bulbs. Plus, LED lights last longer and don't get warm after they have been lit. "Go green" for the holidays and plan now to save next year!

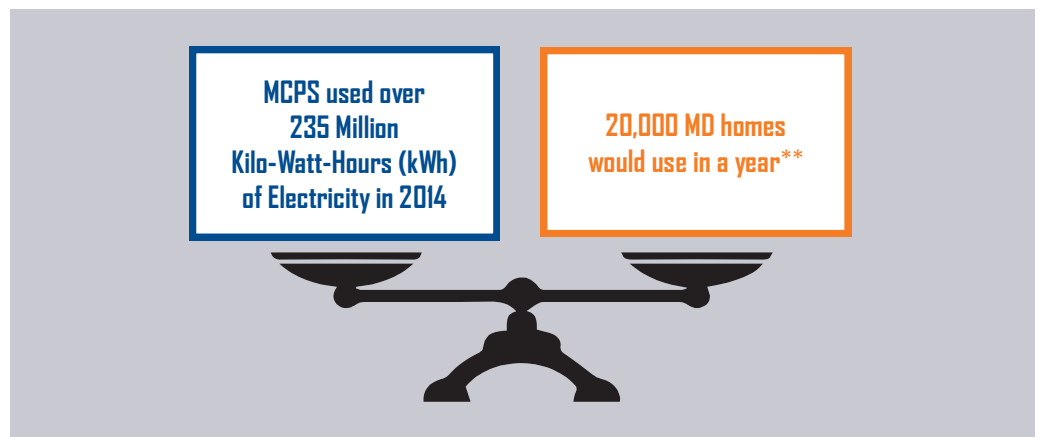
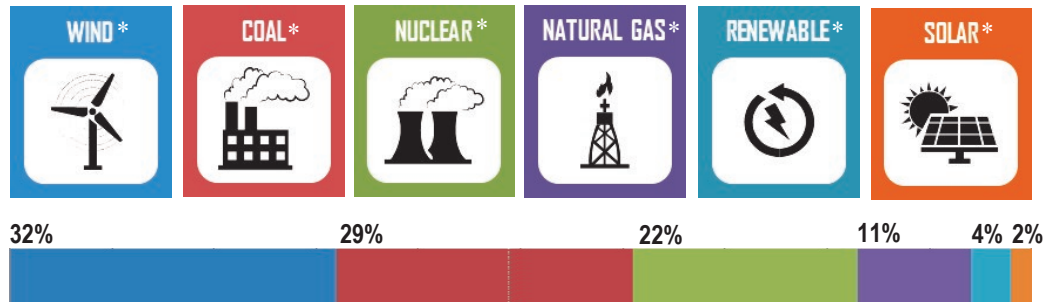


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## Conserving Electricity at MCPS is Extremely Important!

Montgomery County Public Schools (MCPS) purchases its electricity from different sources.



### MCPS SERT Program

Dept. of Facilities Management  
45 W. Gude Drive  
Suite 4000  
Rockville, MD 20850  
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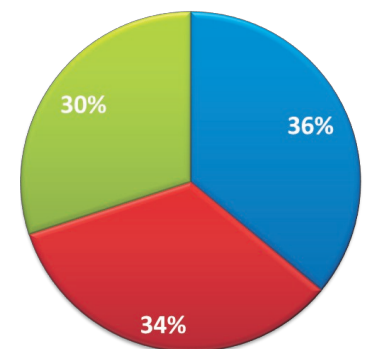
February, 2015  
SERT

**M**CPS uses over 235 million kWh of electricity to light its 8100+ classrooms, operate its 45,000+ computers, and heat and cool its 203 schools. We buy our electricity from renewable and non-renewable sources. When we reduce electricity usage, we reduce the operating expenses. We also save natural resources and reduce pollution.

Contact [SERT@mcpsmd.org](mailto:SERT@mcpsmd.org) to learn how you can make a difference.

\* Supply averages vary slightly depending on energy market  
\*\* Based on data from eia.gov  
\*\*\* Usage data may vary depend on weather and other circumstances

On average MCPS uses its electricity in the following ways\*\*\*



- Lighting
- Wall Plug Devices
- Heating & Cooling