

Green Schools Best Practices Workshop

May 21, 2009

Session: Beyond WRR

- Levels 2 and 3 of the
King County Green Schools Program
– Dale Alekel
- Energy Conservation in Schools
– Sheryl Anayas (Puget Sound Energy)

Beyond level 1 (WRR)

1. Overview of King County Green Schools Program
2. How to maintain Level 1 achievements
3. Overview of criteria and conservation categories in levels 2 and 3
...with examples of school activities and successes

King County Green Schools Program

Program mission

Provide schools with tools and support

- Expand conservation practices
- Operate environmentally efficient facilities
- Involve the whole school community



Program Overview

Step 1:

Form a Green
Schools team

Step 2:

Fill out application

- Schools
- School districts

Step 3:

Improve conservation
practices, with
assistance from
program



Program Overview

Step 4:

Participants receive recognition

- Web site
- Banner
- Certificates
- Award events
- School board
- Press release



Three Program Levels

Level one:

Waste Reduction and Recycling

- Assess and monitor
- Reduce waste
- Recycle
- Reduce hazardous materials



Three Program Levels

Level two

Energy conservation

...Plus one additional category -

- Environmental education
- Environmental purchasing
- Green building
- Hazardous materials management
- Litter reduction
- Transportation choices

Level three

Water conservation

...Plus one category from the list above

How to maintain level one

- Keep your Green Schools team alive and active!
- Involve the whole school
- Continue education/ promotion
- Use criteria to regularly assess practices and to stay on track
- Ask the KC Green Schools Program for help!
- Promote successes!
...and recognize the heroes!



Overview of criteria

- Experts in each field helped compile criteria
- School and district staff provided feedback
- Most important practices are required
 - “Complete all of the following required actions”
- Can select other practices from a longer list
 - “Complete at least two of the following recommended actions”
- Different criteria for schools and districts

Criteria : It's easy!

- Doubles as an assessment tool
- For schools – your district already may have completed some of the “School Criteria” practices
- Overlapping criteria between categories
- Assistance is available
- Eligible to receive assistance even if school/district does not complete criteria
- Your Green Schools team is in place! ... and so are promotional methods!



Environmental Education

Criteria - required

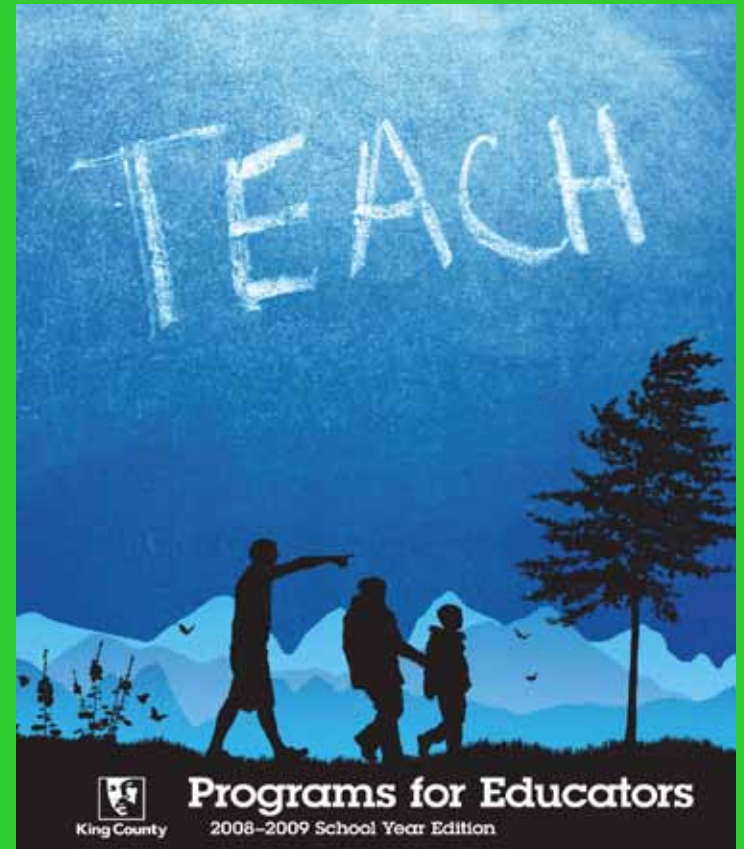
- Meet state requirements
- Create a plan

Education: Select from options such as...

- Use free KC programs
- Invite experts
- Environmental fair

School Community: Select from options such as.....

- Create a school club
- Post reminders
- Recognize efforts





Environmental Education

Explorer West Middle School

- Sustainability: curriculum focus

The Evergreen School

- Environmental Fair

Many schools

- KC classroom workshops

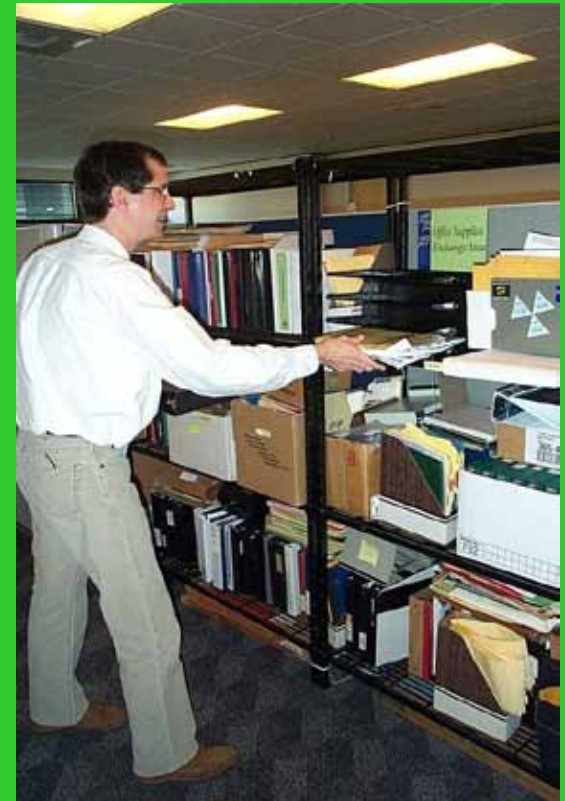




Environmental Purchasing

Criteria

- Policy
- Select from options such as:
 - Purchase copy paper with 30% recycled content
 - Purchase refillable products
 - Purchase supplies as needed to avoid over-stocking
 - Purchase products that use less energy/water or are less toxic
 - Reuse supplies





Environmental Purchasing

Tolt Middle School

- Purchased 60 cases of recycled paper and non-toxic cleaners

Bellevue High School

- Purchased refillable white-board markers

The Evergreen School

- Created a policy





Hazardous Materials Management & Reduction

Criteria Areas

- Lab chemicals
- Cleaners, sanitizers
- Indoor air quality
- Lead
- Mercury
- Pesticides

Who to involve?

- District staff
- Secondary science teachers





Hazardous Materials Management & Reduction

Vashon Island SD

- Science and photography labs:
Improved storage,
handling, and disposal
- Assistance received:
 - Site visits/workshop
for science teachers
 - Vouchers





Litter Reduction

Criteria Areas

- Policy
- Proper garbage/recycling containers and signs
- Regular clean-up
- Inventory
- Anti-litter campaign





Litter Reduction

Arrowhead Elem and Kings

- Litter collection
- Anti-litter campaign

Bellevue High School

- Clean up and assessment
- Plastic bottle recycling
- Plastic bottle recycling increased 7% to 40%
- Litter decreased by 50%





Transportation Choices

Criteria

- No-idling policy and promotion
- Select from options such as:
 - Use public transportation for field trips
 - Offer ride-matching for staff/families
 - Promote school bus use
 - Establish a “Walking School Bus” program
 - Promotional campaigns
 - Walk to School month (Oct.)
 - Bicycle month (May)



Transportation Choices

Tolt Middle School

- School district anti-idling policy

Island Park, Snoqualmie and Cascade View elementary schools

- Anti-idling promotion

Vashon Island SD

- Encouraged students to ride bus

Three Cedars

- Matched riders for carpooling





Water Conservation

Criteria Areas

- Assess and monitor
- Indoor conservation
- Outdoor conservation
- Policies/purchasing
- Education and outreach



Water Conservation

Crestwood Elementary

- Hand washing rhyme
- Rain barrel

Bellevue High

- Turned off faucet in home economics class

St. Francis of Assisi

- Noticed bill increases
- Found meter reading error
- Received \$11,000 reimbursement





Energy Conservation

Criteria Areas

- Assess and monitor
- Lighting and plug loads
- Heating and cooling
- Education and outreach





Energy Conservation

Lake WA School District

- Solar panels on two facilities

Tolt Middle School

- Installed CFLs & timers
- Signs on light switches
- Saved \$1,195 within first 2 months



Energy patrols

King County Green Schools Program

Energy Conservation – School Criteria

Schools must complete the Energy Conservation criteria below to receive recognition as a King County Green School, level two.

Directions

- Fill in the school name and other information at the top of the form.
- For each action that your school completes, place a check mark in the appropriate box.
- Email or fax the completed form to Dale Alekel, dale.alekel@kingcounty.gov, 206-296-4475 (fax).

School Name:

School District: Bellevue School District

Date: 5-1-09

Name of Person Completing Criteria Checklist: Rina Fa'amoe

☐ Teacher ☐ Principal ☐ Custodian ☐ Student ☐ Parent ☒ Other RCM

Criteria are divided into the following areas:

- Assessment and Monitoring
- Lighting and Plug Loads
- Heating and Cooling
- Education and Outreach

Assessment and Monitoring

Complete all of the following required actions:

- ☒ Track the school's energy use and costs, including both electricity and natural gas. Establish baselines for both electricity and natural gas, and then monitor the impact (in both energy use and cost savings) of energy conservation practices. Note: Public schools can request data from the school district. Private schools can assign a staff member with the responsibility of monitoring monthly energy use and costs for each building, based on utility invoices.
- ☐ Annually inform staff, students, parents and the school board about the school's energy use and costs.

Lighting and Plug Loads

Complete all of the following required actions:

- ☐ Turn off lights in unoccupied spaces where reasonable.
- ☐ Use daylight: in occupied spaces, open blinds when adequate outdoor light is available.
- ☒ Turn off outside lights during the daytime. *Consider* turning off outside lights at night (i.e., dark campus with motion sensor lights), depending upon the safety and security needs of the facility.
- ☒ Ensure that weekend and vacation shut-down procedures for lights and electronic equipment are followed.
- ☐ If available from the school's energy provider at no cost, use vending misers or timers to control vending machine lighting and compressor use. If not available at no cost, consider this a recommended strategy. The school also can ask the vendor to permanently turn off front panel display lights on all vending machines.
- ☒ Turn off or put to sleep all computer monitors, computer peripherals such as printers and scanners and other electronic equipment such as copiers when not in use. Note: Some school districts obtain computer software that will automatically shut off all computers at a specific time each day. Some schools organize student volunteers to take turns shutting off all DVD players, computer monitors, etc. at the end of every school day.

Complete at least two of the following recommended actions:

- ☐ Post signs on or near light switches to encourage students and staff to turn off lights in unoccupied spaces.
- ☐ Post signs on or near electric equipment to remind students and staff to turn off computers and other equipment when not in use.
- ☐ Restrict the use of supplemental or personal space heaters, refrigerators, coffee pots and other appliances in offices and classrooms.
- ☒ Consolidate food stored over the summer in as few refrigeration units as possible, and shut down unnecessary refrigeration units over the summer. Note: After the last day of classes, many schools empty and unplug refrigerators in Home Economics and other classrooms.

- ☒ Clean/vacuum refrigerator condensing coils twice yearly.
- ☒ Replace incandescent lights with fluorescent lights marked with the Energy Star label.
- ☒ Install occupancy sensors in frequently used rooms.
- ☐ Use multiple switches to customize light levels.
- ☒ Schedule or program lighting controls, if these are available in the school facility.
- ☐ Consolidate or centralize after-hour activities into common areas, adjacent classrooms and/or one wing of the building, and then reduce energy use in unoccupied areas.
- ☐ When possible, make use of task lighting such as desk or under counter lamps instead of central lighting.
- ☐ Keep lamps, light fixtures, ceilings and other room surfaces clean to reflect light.
- ☒ Purchase only energy-efficient equipment such as products that carry the Energy Star label, which indicates that the equipment meets strict energy efficiency guidelines.
- ☐ Other: _____ (What other practices can the school implement to reduce use of electricity?)

Heating and Cooling

Complete all of the following required actions:

- ☒ Set standard heating and cooling points: 68°F - 70°F during the heating season and at or above 75°F when air conditioning. Then do not tamper with the thermostats. Regularly encourage students and staff to dress appropriately for the season so that they will be comfortable with the standard thermostat settings.
- ☒ Set hot water temperatures no higher than 120°F.
- ☒ Keep hot water pipes insulated.
- ☒ Ensure that weekend and vacation shut-down procedures are followed. Schedule all HVAC systems to be OFF during weekends, holidays, and

extended breaks. Use overrides for heating and cooling after school hours.

- ☐ Check building regularly for energy waste and report to appropriate maintenance staff.

Complete at least two of the following recommended actions:

- ☒ Do not heat unoccupied spaces. In other words, schedule heat for occupied spaces only.
- ☒ Check mechanical equipment annually, and perform proper cleaning and preventive maintenance (e.g., heating coils are vacuumed, filters are changed as scheduled, heating system is re-commissioned when necessary) according to the recommended schedule for the school's equipment.
- ☐ Keep windows and doors closed when heating/cooling is on. Ensure that doors to the outside of the building are not left open longer than necessary when heating and cooling. Classrooms also should keep their windows and doors closed when heating and cooling except for periodic airing out to improve indoor air quality.
- ☐ Keep HVAC vents and grills unobstructed or free of obstructions such as papers, books, etc.
- ☐ Have the school's HVAC technician(s) ensure that the outside air dampers are closed during building warm-up.
- ☐ Close window blinds/curtains at the end of the school day to keep heat in, and open window blinds/curtains during the day to let daylight in and reduce the need for heating. Close window blinds when rooms are unoccupied if safety and security needs of the facility will allow this action.
- ☐ Upgrade weather stripping, caulking, insulation, glazing and/or door and window hardware.
- ☒ When replacing old HVAC systems and boiler equipment, replace with the most energy efficient equipment possible.
- ☐ Consolidate or centralize after-hour activities into common areas, adjacent classrooms and/or one wing of a building, and then reduce energy use in unoccupied areas.
- ☐ Other: _____ (What other practices can the school implement to reduce the need for heating/cooling?)

Education and Outreach

Complete at least two of the following recommended actions or ...
two actions from the list of ideas in the Environmental Education category.

- ☐ Once each week, in morning announcements, at staff meetings, and in other appropriate venues, share an energy conservation fact or conservation practice.
- ☐ Create an "Energy Conservation Patrol" and assign classroom tasks such as turning off lights, shutting down computers, etc. Give each student job a title (e.g., "Light Watcher").
- ☐ Create energy conservation labels and post them on light switches and equipment.
- ☐ Create a classroom Energy Conservation Pledge.
- ☐ Create a custodial Energy Conservation Pledge.
- ☐ Contact your local utilities or agencies to schedule speakers or to request classroom resources related to energy conservation.
- ☐ Include energy conservation themes in assignments or activities such as science, reading, current events, math, and art.
- ☐ Explore how turning off lights helps salmon, and create a display about it.
- ☒ Have grades 6, 7 and 8 participate in the Cool School Challenge or Powerful Choices For the Environment Program. Note: Utility sponsors and local cities may be able to help pay for this program.
- ☐ Have students calculate their personal "carbon footprint" using one of the many online calculators and ask them to write, draw or present about simple things they can do to reduce their footprint.
- ☐ Other: _____ (What other education/promotional monitoring activities could students participate in?)



King County

Department of
Natural Resources and Parks
Solid Waste Division

Questions? / Sharing