

# Sequoyah School Sustainability Criteria

November 11, 2009

In celebration of our school's 50<sup>th</sup> year, the Sustainable Campus Committee undertook an evaluation of our **ecology, economy, and community** to create the Sequoyah School Sustainability Criteria. Categories for The Criteria are taken from the UN Urban Environmental Accords, and are those that have been adopted by the City of Pasadena, LEED, and others. The Criteria illuminate existing successes to be built upon, while providing direction for Sequoyah to move into the future. The Criteria is used by the Sustainable Campus Committee to inform an annual sustainability plan which will be reviewed by the Board of Trustees' Long Range Planning Committee.

## Categories:

### Energy

- Renewable energy
- Energy efficiency
- Climate change

### Waste

- Zero waste
- Product waste
- Consumer waste

### Urban Design

- Green building
- Urban planning
- Green jobs

### Urban Nature

- Parks
- Tree canopy
- Habitat corridors

### Transportation

- Public transportation
- Clean vehicles
- Traffic

### Environmental Health

- Toxics reduction
- Organic foods
- Air quality

### Water

- Water efficiency
- Drinking water protection
- Wastewater

### Social Justice

- Community service
- Diversity
- Social justice

## **Energy**

### Renewable energy:

- Install PV panels to reduce non-renewable energy dependence.
- Explore grant eligibility.
- Inquire about leasing PV panels.
- Inquire about using our rooftops for PWP PV panels.
- Long term goal is producing all of our energy on-site through various means.

### Energy efficiency:

- Replace incandescent fixtures with fluorescent fixtures.
- Maximize controlled natural light in classrooms.
- Replace exit sign lights with LED's.
- Audit existing energy use practices, including HVAC, lighting, plug loads, building envelope and maintenance. Call PWP hotline: (626) 744 6970.
- Install programmable thermostats throughout campus, establish and monitor settings.
- Adopt a weekend and vacation energy shutdown program, including thermostats, computers, kitchen equipment, water heaters, water fountains, interior and exterior lighting, all other plug loads/phantom energy sources.
- Do not use the garbage disposal; compost waste.
- Purchase energy efficient equipment.
- Evaluate insulation.
- Compare Sequoyah's energy use with the national average by visiting [www.energystar.gov](http://www.energystar.gov) and registering for a Portfolio Manager account.

### Climate change:

- Celebrate 350 Day with 350.org to raise awareness of climate change and our community's control of the sources of climate change. Survey and educate about tangible causes of climate change, such as carpooling rates and energy efficiency lighting.
- Plant trees.
- Select Green Energy option from utilities where possible.

## **Waste**

### Zero waste:

Utilize reusable shopping bags for all shopping from school.

Instigate a low or zero waste policy for **all** school events, including:

Reusable serving dishes, plates, cups, utensils and cloth napkins.

Recycle, reuse or compost all other waste.

Provide low or zero waste school lunch packaging guidelines. Encourage this by selling discounted reusable lunch containers and advertising cost savings of buying in bulk.

Establish low or zero waste hot lunch purchasing and food prep guidelines.

Expand our compost program to papers and other acceptable materials, vermicompost, send excess scraps to a nearby farm or other.

### Product waste:

Use less paper at school by utilizing e-mail, the internet, wikis, etc.

Reuse when possible. Get as much out of supplies like paper, cardboard and stationery before recycling them.

Inventory all purchases and select appropriate alternatives

Before purchasing, consider:

1. Trading
2. Borrowing/Renting
3. Buying used
4. Buying new

Take packaging into account when selecting all products related to food, office supplies, etc. Stay away from products wrapped in plastic moldings, as they are not recyclable.

Opt for loose produce and foods before considering packaged items. Buy glass and paper-packaged items before plastic.

Buy in bulk; buy products in larger containers, such as bulk products and bulk drinks.

Opt for products that offer "Take-Back" programs, where manufacturers take "physical responsibility for their products and/or packaging at the end of their useful lives."

Buy reusable items rather than disposable, eg. NiMH batteries, rather than alkaline.

Invest in a charger to easily replenish batteries at school. Dispose of old alkaline batteries properly at S.A.F.E. Center.

Buy products or goods that are made from recycled content. Buy recycled copy paper.

Use concentrated cleaning products in bulk, contained in recyclable packaging.

Invest in higher quality products that last longer, rather than cheap, easily broken items.

Dispose of hazardous waste, e-waste, ink cartridges, etc. in their appropriate locations.

Limit restaurant take-out food and their disposables. Provide guidelines to caterers.

Buy products made locally, in the USA.

### Consumer waste:

Recycle disposables whenever possible.

Maintain ink cartridge and cell phone collection program.

Analyze waste stream.

Use dish towels instead of paper towels.

Apply for City of Pasadena Dept. of Public Works Outstanding Recycler Awards - application due in October.

## **Urban Design**

### Green Building:

Long-range campus planning incorporates use of existing facilities - protecting, adapting and maintaining the existing building stock. Historical campus from 1958.

File a Master Plan with the City of Pasadena.

Entry Shade Structure modeled after existing pergola structure using 50% less lumber and LSLs (laminated strand board) for trusses.

Investigate Campus Historic Designation in conjunction with Caltrans.

Investigate LEED-EB (existing building) Certification.

Meet LEED standards or similar for renovation and construction projects.

Use sustainably harvested woods or recycled materials, reuse materials and furnishings.

Reuse and recycle construction waste for every project.

### Urban planning:

Implement Sustainable Learning Elements.

For traffic calming along Pasadena Avenue and the crosswalk contact Norman Baculinao,

Transportation Planner: (626) 744 4111 (involve student community service.)

Lobby city for greater pedestrian friendliness. Provide cross walks, bike paths

Improve sidewalk/fence – perimeter of school.

### Green jobs:

Teach ecological knowledge and systems thinking, which views phenomena as wholes rather than parts, and emphasizes relationships, connectedness and context.

## **Urban Nature**

### Parks:

- Construct Gardens for Learning outdoor classroom.
- Choose locally grown plants, natives.
- Make sure to not plant invasive plants, like pampas grass or Scotch broom.
- When mowing, let grass clippings fall instead of bagging them, so they can refertilize the turf.
- Use natural fertilizers such as aged chicken manure or liquid fish emulsion to feed vegetables and annuals.
- Mulch soil regularly with organic materials to keep down weeds and conserve water.
- Stay ahead of weeds, pulling them before they set seed and spread.

### Tree canopy:

- Continue to plant trees.
- Site deciduous trees to provide cooling shade in summer and allow sunlight through branches in winter.
- Irrigate established trees slowly and deeply with soaker hoses or deep-root irrigators in hot weather.
- Don't overprune trees – consult an arborist.
- Investigate rebate from PWP (626) 744 6970.
- Investigate Pasadena Urban Forestry Shade Tree program.

### Habitat corridors:

- Select plants that encourage different animals.
- Feed and shelter birds, butterflies and other wildlife.
- Plant flowers that attract beneficial insects (such as ladybugs and lacewigs) to help control harmful insects.
- Plant disease-resistant plant varieties.

## **Transportation**

### Public transportation:

- Provide family address list sorted by zip code on website to facilitate carpooling.
- Encourage and help facilitate car/van pool groups.
- Improve carpooling; contact Judi Masuda, Transportation Planner, at (626) 744 3725.
- Encourage use of mass transit at least once a week.

### Clean vehicles:

- Field trips in full school vans are energy efficient.
- Investigate energy efficient and low emissions replacement for school vans.
- Investigate alternatives to busses for field trips. Laidlaw was required by court action to clean up its fleet – ask for their low exhaust/clean technology vehicles.

### Traffic:

- Educate about parking lot design and usage to reduce idling exhaust.
- Increase pick-up and drop-off efficiency to minimize idling exhaust.
- Consider staggered pick up times to minimize line of cars.
- Promote public transportation, carpooling, bicycling, walking.

## **Environmental Health**

### Toxics reduction:

- Inventory existing products and provide effective, healthful alternatives.
- Use Green Seal Certified Cleaners to reduce harmful VOCs.
- Strive for fragrance-free products.
- Assess potentially problematic mold-growth areas.
- Use only VOC-free paints, sealants, caulking, etc.
- Replace carpets with environmentally-friendly versions, implement at younger ages first.
- Assess lead content of paints on buildings, furniture, and old wood toys. Use proper lead removal procedures to ensure safety.
- Test arsenic content of wooden playground equipment; remove if it tests positive.
- Ban pesticide use on school grounds.
- Use integrated pest management, and implement live traps to catch animals and remove them if necessary.
- Cease buying and using products made from or containing the following materials:
  - Vinyls (contain PVC and lead)
  - Unsafe plastics 3, 6 & 7. Consider replacement of all melamine plates and dishware
  - Bleach in paper
  - Teflon/Calphalon cookware and appliances
- Store food in reusable non-leaching glass, stainless steel or ceramic containers. Reuse bulk juice glass containers for holding and serving drinks at school. Stay away from plastic food and drink storage. Eliminate use of saran wrap by using stainless steel or glass containers.

### Organic foods:

March 15, 2009 Sustainable Learning/Learning Sustainably and Harvest Hot Lunch on September 26, 2008 consisted entirely of local, organic food, some of which was grown on school grounds and by our community. Strive to expand this practice.

#### Food sources:

- If not from backyard, then locally produced [define local radius]
- If not locally produced, then organic
- If not organic, then family farmed
- If not family farmed, then local business or CSA
- If not local business or CSA, then Fair Trade
- If not fair trade, then grocery store

#### Serve foods that are:

- Whole foods, or with the least amount of processing
- Fresh vegetables and fruit
- Hormone and antibiotic-free
- Grass-fed meats and dairy
- Non-GMO foods

Transition all hot lunches to a more sustainable model, including use of the farmer's market.

Increase production of our vegetable beds.

### Air quality:

- Evaluate air quality to see if it justifies indoor play.
- Get random certified testing of indoor air quality in the classrooms.
- Make sure HVAC filters are up to date and changed out every 4 months. Look into HEPA filters for school system.
- Use hand tools instead of gas- and electric-powered, such as a reel mower to cut the lawn and rakes to clean up fallen leaves.
- Filter pollution from traffic with trees.
- Monitor toxic air pollution from adjacent freeway development.
- Investigate AQMD rebates.

## Water

### Water efficiency:

- Reduce handwatering.
- Evaluate true watering needs of all plants and tailor sprinkler system to meet those needs. Adjust sprinklers frequently to match season and landscape requirements.
- Group plants according to water needs, plant no- and low-water plants, native plants.
- Water landscaping when it's dark to minimize evaporation, don't water when it's windy or has been raining.
- Mow grass higher than 3" to encourage deeper root growth and require less water.
- Mulch and accumulate leaf litter to retain water in the soil.
- Use a broom instead of a hose to clean driveways and sidewalks.
- Installed dual flush toilet in Daycare House, purchased by the Student Government, as a result of Treehouse science project.
- Replace all existing toilets with low-flow or dual-flush toilets – file for rebates from PWP. Until that's possible, use water displacement devices in the tanks.
- Check for leaks, including faucets, pipes, toilets and water fountain.
- Replace water-cooled refrigerators, air conditioner and ice-makers with air-cooled appliances.
- Install faucet aerators with flow restrictors.
- Install instant water heater at kitchen sink.
- Install water-softening systems only when necessary. Turn softeners off during breaks.
- Insulate hot water pipes.
- Avoid installing water-to-air heat pump or air-conditioning system.
- Choose appliances with cycle and load size adjustments, use them per instructions.
- Run dishwasher and clothes washer only when fully loaded, adjust setting appropriately.
- Use energy efficient dishwasher to wash dishes instead of washing by hand.
- Provide hand dishwashing guidelines:
  - catch excess dishwashing water in tubs/basins in sinks, use to water plants
  - rinse with slow flowing stream or use a rinse tub with hot clean water
  - soak pots and pans instead of letting water run while you scrape them clean
- Wash fruits and vegetables in a pan of water instead of running water.
- Cook by steaming instead of boiling to use less water and retain nutrients.
- Water plants with leftover ice and water from cooking.

### Drinking water protection:

- Evaluate existing water supplies and need for additional filtration.
- Install efficient whole school POE water filter system plus drinking water filter (Oxygen Ozone system.)

### Wastewater:

- Bio swale built to recharge groundwater from parking lot runoff.
- New planting pockets in parking lot increase permeability by 15%.
- Water catchment barrel installed near parking lot, and water fountain waste catchment system is pending installation, as a result of Treehouse science project. Both were paid for by the Student Government. Grant application submitted to implement other Treehouse 2007/8 water saving proposals which could save as much as 200,000 gallons of water each year.
- Collect gray water – use reclaimed water to flush toilets and irrigate.
- Provide as much water catchment as possible and plan to use that water.
- Direct water from HVAC systems toward water-loving plants in the landscape.
- Use permeable paving where possible. Use runoff to recharge groundwater, direct away from storm drains.
- Install an infiltration pit or a rain garden (a small, planted basin) to catch and filter rainwater and keep it on-site.

## **Social justice**

### Community service

Sustainable Learning, Learning Sustainably conference at Sequoyah March 14, 2009.

Use Sequoyah as an example of a sustainable business or school, for PWP demonstration projects of native plants, energy saving and water use.

Lobby Pasadena Chamber of Commerce regarding establishing Green Business recognition, apply to have Sequoyah the first to receive this recognition.

Encourage community to go through online training module at [www.thinkgreenpasadena.com](http://www.thinkgreenpasadena.com).

Install signage around campus to draw attention to and educate community regarding green measures.

Encourage participation and buy-in from our community by establishing a volunteer list for sustainable programs and gathering input from knowledgeable members.

### Diversity

Provide Indexed Tuition.

### Social justice

Consider educational programs for students:

Gabriel Silva, City of Pasadena Recycling Coordinator, at (626) 744 4721, has programs about composting and recycling for 9-12 year olds.

Environmental Defenders – all school presentation, as in 2007-8.

Field Trip to a landfill.

Field Trip to Burbank Recycling Center.

Field Trip to the Port.

Raise funds through CRV collection.

Create a “Sequoyah Sustainable Store,” selling sustainable items made by students or promoting sustainability in our community’s homes while raising funds for on-campus sustainable goals.

Provide Zero Waste Outreach.

Provide Compost Outreach