

Implementing the Illinois Sustainable Schools Compact

Specific suggestions of ways to fulfill items on the compact are described below. Items from the *Illinois Sustainable Schools Compact* are numbered and in bold. Visit GreenSolutions.il.gov for more information.

Operations:

1. Conserve energy and lower carbon emissions by shutting off lights and computers when not in use and adjusting thermostat settings.

There are many easy ways to cut down on your school's carbon emissions and utility bills. Consider organizing interested students to shut off lights and computers when not in use or at the end of the day (if this is in line with school procedures). Install automatic light sensors and computer technology that put machines to sleep when not in use. Unplug appliances at night to conserve energy and money—appliances that are plugged-in, even if turned off, still use energy! Keep thermostats at 68°F in the winter and 78°F in the summer to lower energy bills; consider reducing heating and cooling at night when no one is in school buildings to save even more. Promote teleconferencing or videoconferencing for meetings to reduce unnecessary traveling.

Consider calculating your school's carbon footprint, or offsetting your carbon emissions. A good place to get started is <http://www.carbonfund.org>.

2. Encourage recycling (including batteries and electronics), composting, and purchasing products with minimal packaging.

Encourage students and staff to lead recycling efforts, and make it fun; consider joining a statewide or national recycling competition. Compost shredded paper, lawn debris, and food scraps with outdoor compost bins or with worm composting (students love this!). Buy products that are biodegradable and contain recycled content. Also, buy materials in bulk to reduce packaging.

Visit the Illinois Recycling Association at <http://www.illinoisrecycles.org> for more information on recycling and reducing waste.

3. Reduce fuel consumption and pollution from school transportation by limiting car and bus idling, encouraging carpooling, and increasing the fuel efficiency of school vehicles.

Did you know that hybrid school buses are now on the market? Consider converting school buses or maintenance vehicles to flex fuel, hybrid technology, or install exhaust filters that capture soot and other air pollutants. Place signs by school pick-up/drop-off areas encouraging drivers to shut off their engines while waiting for students. This practice reduces greenhouse gas emissions and unhealthy pollutants that aggravate asthma and harm air quality. Encourage students to help organize a school carpooling program. Find ways to reduce travel for school functions. For example, installing video and teleconferencing equipment can reduce the need for travel for school meetings. Also, factor in the air emissions generated by field trips and other outings, and choose destinations that are close to the school.

Follow this link for information about green transportation <http://www.illinoisgreenfleets.org> and visit <http://www.advancedenergy.org/corporate/initiatives/heb> to learn about hybrid school bus programs.

4. Practice sustainable grounds maintenance by minimizing use of chemical fertilizers and following a conservative watering schedule.

Conventional fertilizers often wash into streams and lakes, causing fish kills after the nutrients cause algal blooms that suck oxygen out of the water. Large amounts of fossil fuel are also required to manufacture conventional fertilizers. Consider phasing out conventional chemical lawn fertilizers and transitioning to healthier alternatives that don't contain phosphorus. Furthermore, pesticides and herbicides can be harmful to landscaping crews and students and can also endanger beneficial insects and local wildlife. There are many environmentally friendly alternative products now on the market.

Watering lawns uses a large quantity of water, which is especially problematic during times of drought. Here are some watering tips: water in early morning or evening hours—if at all—to prevent losing water to evaporation; restrict watering to one day per week; or upgrade irrigation systems with efficient technology. Check out a natural lawn resource website such as <http://www.govlink.org/hazwaste/house/yard/lawn> for more ideas.

Did you know that a lawn mower used for half an hour emits 10 times more hydrocarbons in the air than an automobile driven for the same length of time, and a string trimmer emits air pollution at a rate that is 20 times greater than that of a car? Leaf blowing is even dirtier, emitting air pollution at a rate that is 34 times greater than that of the average car! Instead of leaf blowing, consider raking, which also provides exercise.

Buildings & Grounds:

1. Install solar panels, wind turbines, and/or geothermal units on school property.

Funding for renewable energy installations is increasingly available. While installing renewable energy technology may have significant up-front costs, once installed, there is no monthly bill for solar, wind, and geothermal energy! If capital is a major impediment to such infrastructure installations, consider partnering with energy service companies and financial institutions interested in performance contracting. Performance contracting allows financial institutions (banks, for example) to make a safe investment in a renewable energy upgrade identified and implemented by an energy service company. In the end, the school entering into the contract receives a significant reduction in energy usage and lower utility bills while reducing its contribution to climate change.

Check out the Illinois Renewable Energy Association at <http://www.illinoisrenew.org> or Illinois Solar Schools at <http://www.illinoissolarschools.org> for resources and ideas. For information about performance contracting, visit <http://www.energyservicescoalition.org/resources> to learn more.

2. Convert a school rooftop to a green roof or a white reflective roof.

Planting drought resistant plants on a flat roof insulates the roof, conserves considerable energy, and requires little to no maintenance. Note that an engineer or qualified expert must first properly assess your building to see if the roof can structurally uphold the weight of plants and soil. While this could be expensive initially, the energy savings that accrues could pay off the project over time. Some schools with green roofs use the roof as a living laboratory for science curriculum or as an aesthetic gathering place. A potentially less expensive energy savings plan for your school roof is applying a reflective, bio-based, light-colored coating to the roof. Such applications are relatively inexpensive, and can save energy and utility costs as well as lengthen the life of a roof.

Check with engineers or other professionals (as well as district officials) to see if either of these options is feasible at your school! Visit <http://www.greenroofs.org> to learn more.

3. Retrofit existing electric and water fixtures with high-efficiency models.

It is amazing how much energy and money you can save simply changing light bulbs! Compact fluorescent light bulbs (CFLs) can last 10 times longer than conventional light bulbs and use much less energy, saving carbon emissions and energy bills. Just remember to properly dispose of CFLs because they contain a small amount of mercury (see <http://www.epa.gov/mercury/spills/> for more information). Light-emitting diode (LED) lighting fixtures – though just beginning to emerge in the market – are an even better alternative!

Automated and highly-efficient water fixtures— aerators, showerheads, toilets, sinks, and irrigation equipment—can reduce water bills and electricity, saving money and resources in the long run. See the EPA’s WaterSense program at <http://www.epa.gov/watersense> for ideas on saving water, and the *EnergyStar* program for saving energy at <http://www.energystar.gov>. Guide students in calculating the savings (energy, water, cost, etc.) associated with such upgrade as part of a project or classroom lesson.

4. Conserve soil and water resources by:

- **Incorporating rain barrels and swales into landscaping to slow and filter stormwater runoff.**
- **Planting drought-resistant native species in landscaped areas.**
- **Installing or retrofitting parking lots with permeable paving.**

Rain barrels collect water that drains off roofs through downspouts. The water can be used on lawns and gardens. Storm water from parking lot runoff carries pollutants and contributes to flooding; permeable paving filters pollutants, allows rainwater to replenish groundwater supplies, and reduces flooding. Adding swales with native plants helps filter pollutants from water, efficiently returning clean water back into the groundwater, and reducing localized flooding. Native plants need little watering or chemical application, have deep roots that reduce erosion, and help water filter into the soil.

Visit <http://web.extension.uiuc.edu/state> to find local soil and water conservation resources through your local cooperative extension office.

Curriculum:

1. Participate in environmental community service projects, field trips, and assemblies.

Consider creating or joining a service learning project (an annual grant is available through the Lieutenant Governor’s Office; see <http://www.ServeAndLearn.org> for more information), visiting local nature centers and parks, or inviting conservation groups to your school to perform skits, show films, or conduct hands-on projects. Giving students direct contact with plants, wildlife, and natural places can do wonders for their later interest in environmental stewardship! Inspire students to pursue conservation and environmental careers by introducing them to working professionals in the field through guest speakers in the classroom, visits to professional offices, or job shadowing. Consider participating in It’s Our River, a river stewardship and recreation initiative facilitated by Lt. Governor Quinn’s Office each September (see <http://www.CleanWater.il.gov> under “Other Programs” for more detail).

2. Start an environmental club to promote green awareness and track school-wide sustainability measures.

Empower students to start an environmental club that leads environmental stewardship and awareness efforts at your school. Help students select an issue they are most passionate about and encourage them to plan an event for students, faculty, parents, and the local community to increase awareness and facilitate action on the issue. Examples might include a water conservation workshop, a recycling campaign, or a native landscaping expo. Encourage students to audit the school's energy and water use, waste and recycling efforts, and purchasing habits.

If you are interested in developing an environmental club with an existing organization, call Lt. Governor Quinn's office for suggestions at 312-814-5220 and ask for someone on the Environment Team. Check out Roots & Shoots at <http://www.rootsandshoots.org>, the Sierra Student Coalition at <http://www.ssc.org>, or other organizations to start a club chapter at your school!

3. Integrate environmental studies and green career development programs into the school curriculum.

Incorporate nature writing, energy calculations, and hands-on projects into the curricula of existing courses. Explore online environmental curriculum resources that meet appropriate education standards and incorporate ideas into course materials. If this is a hit with students, ask school administrators about offering environmental courses such as Advanced Placemen Environmental Science or courses on conservation and nature appreciation that meet appropriate educational standards.

One good resource is the Environmental Education Association of Illinois. For more information, visit <http://www.eeai.net> to find information about grants, curricula, and professional development opportunities.

4. Lead students, teachers, and staff in creating a rain garden on school property.

A rain garden is a garden planted in a low-lying area where water naturally pools or is directed from downspouts. Rain gardens are designed to include deep soil or mulch and contain native plants whose deep roots quickly absorb large amounts of storm water runoff and naturally filter pollutants. Planting a rain garden is an inexpensive way to conserve water resources, reduce flooding, increase groundwater recharge, and provide habitat for native wildlife – all while serving as an excellent teaching tool. Annual rain garden grants are available through the Lt. Governor's office.

For information about Lt. Governor Quinn's rain garden initiatives, visit <http://www.RainGarden.il.gov> or contact Jamie Caston at Jamie.Caston@Illinois.gov.

Call the Office of the Lieutenant Governor
at 217-782-7884 (Springfield office) to speak with Marc Miller or 312-814-5220 (Chicago office) to speak with
Jon Zirkle, who can help answer questions, provide ideas, and locate resources
related to sustainability and conservation.

Lieutenant Governor Pat Quinn
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