

# Green school initiatives



The idea of “ Green Initiatives” in schools at any age level is a positive step towards installing sustainability in the minds of future generations.

To reduce the amount of energy needed, recycle rain water, lessen landfill space and cut the barrels of oil used by Americans daily; can insure that our natural resource will be intact for many years to come. However, obstacles to Green Initiatives are costs, program management and proper data collection. Is it possible to initiate Green Methods in schools and really save cash as a result? It is possible. Let us examine which eco-friendly ideas work for institutions and which do not. Relevant Facts – Mandy, Miranda, Kate, Tomika & Alicia Why should schools “ go green? ” When a school “ goes green,” that school is making the choice and the commitment to make their school more environmentally friendly. This includes doing things “ to reduce carbon footprint, or the amount of carbon dioxide emissions produced” (Whelan, 2007).

More and more, taking care of the environment is becoming an issue among people. They all want to know what they can do to make their environment safer and cleaner. Schools are becoming no exception to this endeavor. It does not take much for a school to make a difference. It can be something as simple as recycling plastic water bottles or something more complex such as installing energy-efficient solar panels in the roofing.

Today’s schools have become more environmentally aware and many would like to incorporate green learning and living into their school systems. The definition of a green school is “ a school building or facility that creates a

healthy environment that is conducive to learning while saving energy, resources, and money” (www. greenschool-buildings. rg).

A school can be green in many ways; primarily this paper focuses on how a school can best go green. Much of what is discussed is school construction and renovation; however we also highlight some other areas in which schools can initiate green methods. The nation’s schools are currently built to code and meet government health and safety standards; is this enough or is there a better way? A study was performed of 30 green schools built 2001 – 2006 in 10 states. Some highlights from that study include: ? Green school construction costs less than two percent more compared to conventional schools, at about \$3 per square foot. ? Direct and in-direct financial savings to the school and community were about \$70 per square foot – 20 times as high as the cost of going green. ? Green schools, on average, use 33% less energy than convention schools? Reduction of average water use by 32%.

Because of the process of water storage the school created with their green design, the city of Dedham, MA valued the improvement at \$400, 000. ?

Highly reflective green roofs life expectancy to last 30 – 50 years or longer. ?

An average reduction of 38. 5% in asthma, over five separate buildings, due to improved air quality.

Today asthma rates are rising 20-50% every ten years throughout the world (Holguin 2004) There are some other reasons that schools choose to get on the good side of the environment by going green. An important reason behind this decision is in an effort to “ provide a healthy, productive, comfortable environment for students and staff” (Lafee, 2010). This is

because going green calls for cleaner air. If a school is more environmentally sound, it is more likely that there will actually be a decrease in students being absent because of the cleaner air. Building green is especially beneficial to those students that have breathing problems. Many schools, as they are going green, are beginning to install solar panels in an effort to conserve energy and create clean energy.

What are the benefits of using solar panels? They range from “ economic, health, environmental, and financial benefits” (What Are the Benefits of Solar Power? , 2010). By using solar panels in schools, the schools are saving money on their electric bills. Solar panels are allowing schools to cut down on air pollution. Rather than cleaning them every month, solar panels only have to be cleaned once a year.

Solar energy panels also allow for the demise of deadly fumes from fuels such as kerosene and gasoline. This makes for cleaner air indoors, which leads to a decrease in respiratory issues. The use of solar energy panels does not put out carbon monoxide, so they improve the quality of air. Finally, using solar panels in schools will allow “ children to understand the significance of green architecture and renewable sources of energy” (Solar Energy Finally..., 2010). Wind power is used through the use of wind turbines that are installed inside the school grounds. By installing wind turbines on school land we bring other benefits to the school.

As with solar panels, wind power also decreases a school’s electric bills. Using wind turbines give schools certain tax breaks. Having a wind turbine also “ adds an experiential dimension to the schools’ science, math, and civic

classes” (The Benefits of Wind Power, 2010). There is a program called the Wind for Schools Project whose purpose is to “ install small wind turbines at rural elementary and secondary schools while developing Wind Application Centers at higher education institutions” (Wind for Schools Project, 2010). The program basically educates schools on the use, as well as the benefits of, wind power.

One of the biggest ways that schools are going green is by having the students recycle their empty plastic milk and beverage containers after lunch. Schools put recycling bins in their cafeterias in an effort to encourage students to put their containers in them rather than a garbage can. What are the benefits? Doing this “ conserves resources, helps the environment, saves schools money on disposal costs, creates the volume needed to have a viable recycling program, and teaches children social responsibility” (Why Recycle Plastic Milk and Beverage Bottles? , 2010). An additional benefit of recycling plastic beverage containers is that leaks and odors are decreased because the plastic containers have caps on them, and the students are encouraged to replace the caps on the empty containers.

The types of containers that are recyclable are “ all plastic beverage bottles (i. e. milk, soda, water, juice) and aluminum cans” (Recycling Plastic Milk Bottles At School, 2010). While it is true that recycling in schools is dependent upon the school district, most school districts are on board with this form of going green. They are willing to make the accommodations that are needed for this endeavor.

The concept of a school going green may be better understood by its students if they are a part. If they feel that they are part of something, it will make them want to try harder. Green schools offer other advantages that might not be immediately apparent. The school is actually a teaching tool.

Think about it. High school students could actively learn about renewable energy from the school's solar panels. The middle school students could study ecosystems in their own wetland. The elementary students could grow organic vegetables and eat them for lunch.

The student(s) would receive the full green experience. An additional way students are applying these concepts in the classroom are in art classes, instead of having students use recyclable materials, allowing them to use materials from nature. This can include making projects with leaves, sticks, sand, or any other outside objects. Not only is this fun for the students, but it is also environmentally-friendly. " There are different ways to create a work of art using found objects" (Kauffman, 2009). Students who use natural objects are more likely to be inspired.

And using natural materials is very cost-effective for the schools. This type of art is especially rewarding to smaller children. This is because they get to " play" with stuff. Normally would not have the chance to. Some elementary schools have started implementing " garbage art. " Garbage art supplies include " beans, rice, buttons, fabric, string, dry pasta, yogurt, dryer lint, pencil shavings, etc.

" (Pedersen, 2010). For younger students, this type of art is more likely to be more fun than any of the aforementioned options. The opportunity that "

<https://assignbuster.com/green-school-initiatives/>

green building” in schools provide to the students, teachers, and the community is substantial. Along with the health benefits, there are cost savings to the school and to the city the school is located in.

Continued growth within the green initiatives and design benefit the country and the world environment overall. (www. greenschoolbuildings. org) When students are involved their moral is up, if student morale is up, the desire for students to learn also increases. A school that is more environmentally conscious benefits because their students will not only be learning how to help the environment, they will be implementing that knowledge as well. Schools that go green will positively impact student health in other areas than just cleaner air.

Cleaner air results in higher test scores and teacher retention. Green buildings are designed with proper acoustics so the teachers can be heard and have more control of the classroom environment. Students are exposed to more natural daylight helping them perform at their individual best and avoid seasonal depression due to lack of sunlight. Another more energy-efficient practice is softer lighting in the classrooms. If a school has inadequate lighting, whether it is too bright or too dim, it can actually cause students to have headaches due to possible straining to read. If a school decides to go green in the way of softer lighting, it will be easier for students to see and cause less straining for them.

On top of all these benefits to the children and staff there are operational cost savings with utilizing daylight, reducing energy and recycling water. Going green means that building repairs, upgrades, and system

replacements will assist in lowering utility costs from renewal efforts. (www.greenschoolbuildings.

org) Green schools generally do not cost more than a conventional school to operate. The costs are much less to operate a green school due to the efficient use of water and energy. A green school can typically save \$100,000 in, in-direct costs in a given year. An estimated \$20 billion could be saved over the next 10 years if all schools performed green renovations and all new schools were built green. (www.

greenschoolbuildings. org) Other areas where schools can and are “ going green” are as follows: •Recycling Programs – working with recycling brokers to recycle glass, plastic and paper •Using old material such as cardboard boxes as art supplies •Going “ IT Green” – recycling computers, putting computers on standby when not in use and scanning copies instead of producing paper ones. Many schools are switching to low voltage IT servers. At the University of Buffalo’s Center for Computational Research they are switching to energy-thrifty supercomputer servers and saving \$150,000 annually. (Carter 2009) •Taking advantage of assistance from organizations like the “ Go Green Initiative. org” that helps train school staff in green teaching methods so they can teach their students.

They also assists in obtaining grants for schools; give quarterly progress reports to schools and give tools to track and quantify your green savings. Clearly one of the biggest benefits of going green within the school systems is That it teaches our children how to live better and make the world a better place in which to reside. These are life lessons that people carry along with



them into adulthood. So, in addition to saving the planet, saving money, and having healthier children; this concept will be carried on into the future.

Incorporating “going green” into the lives of our children would install very much needed values and morals that they can live by as adults.

**Problem Components/Root Problem – Mandy & Kate** Some green initiatives like recycling water or material require very little investment; however construction can be another matter. Building a new school or renovating an existing school to go green, one must look at the big picture not only individual costs. In lean times like these many communities do not have extra funds to invest, so a common barrier to green projects is initial cost. There have been many green projects through the years that have not worked out due to prohibitive upfront costs.

There are groups that believe that the government should aid in jumpstarting these projects to make the initial investment more affordable. (“Green economy,” 2010) However in recent years these costs are going down as green building becomes more commonplace and supplies become more plentiful. In reality the cost of going green is not much higher than it is to stay conventional. Going green may take some project management and innovative thinking, but is not off budget. Perhaps the biggest complication regarding cost comes in when schools are converting an existing structure.

Green schools cost a little more to build – generally 1% to 2% extra – than conventional schools” (King, 2010). Another drawback for new green school construction lies in what can occur during the whole “going green” process, especially if the “green school” is being built from the ground up. “Permits,

zoning requirements, and other bureaucratic obstacles imposed by planning commissions, school boards or other government agencies” (Kennedy, 2010). Whether it is a new school going up or a current school being re-modified, money plays a huge part in just how green a school can go. For example, a school may have the funding for more energy-efficient lighting, but not have the money for better and more efficient air ducts. Not having enough funding can put the halt to preventing a school from becoming more environmentally sound in a heartbeat.

Another hindrance to a school going green is that often not everyone involved is on board with the idea. “ The problem with America’s public education system is it’s failed to empower our communities, parents and teachers with the tools and authority they need to provide the quality educational experience our children need, expect and deserve” (King, 2010). This is basically saying that if the parents and teachers are not given what they need to provide a good, sound education for their children, in and out of school, then no amount of environmentally-correct changes to the school are going to be effective. In many areas of the country, the design requirements are not an additional burden in the price of the bids. There are many financial benefits to new green construction or renovating. Some benefits that accrue over the life of the building are reduced energy and operating costs, improved well-being and more cost effective insurance prices.

www. eda. gov) The US Green Building Council’s Leadership in Energy and Environmental Design – LEED, sets standards for green initiatives. LEED rates projects based on the materials used and how they are sourced, the

design, construction, and efficiency of systems to include water, energy, air quality, lighting, acoustics, waste and transportation.

([www.ecoliteracy.org](http://www.ecoliteracy.org)) Generating and Evaluation of Alternatives – Miranda & Kate Like any large project this puts schools in the position of determining what best suits their specific needs. By setting up specific “ implementation plans” based on needs and monetary ability we can simplify a schools decision.

We can also allow them to make more gradual steps. In a perfect world with abundant funding all schools would be free to immediately make the necessary changes; unfortunately that is not a reality for most. Schools could choose to make their decision in the following ways: •Low investment – green initiatives taken independently- Analyze possible areas of immediate change on their own. Make changes in their everyday routine such as recycling or reusing bottles, paper, glass and plastics. Building a rain water catch system for water reuse.

They can estimate the cost savings to the school and savings to the environment. This will expose the children to the concept of recycling and reuse while helping to teach them. •Medium initial investment – green initiatives taken independently – schools can independently address the low initiatives outlined in option one while also investing in larger improvements. These improvements could include low voltage servers, schedules for electrical output and using computers that go to “ low power” usage when on standby mode. This requires more of an initial investment by the school

but allows the school to see greater return in their investment in the form of cost savings.

- High initial investment – green initiatives taken on independently – schools can independently address both medium initial investment items and renovations to existing structures (like solar panels) or the building of new structures. Ultimately this would bring the greatest cost savings to schools and would have the greatest impact to the student’s environment and green experience. High initial investment – green initiatives taken on with assistance – schools can work with organizations like the “ Go Green Initiative” from start to finish. Instead of “ reinventing the wheel” and learning through experience schools can use the opportunity of organizations that are established just to help them. These types of initiatives provide communication with other schools about their “ green” projects, educate schools staff to “ teach green methods”, provide information on green building, provide data tracking and even educate the community. Schools can make changes at any level they desire and on their own time schedule.

Chosen Alternative – Tomika & Kate We believe that schools and the environment would benefit most from a High initial investment – green initiatives taken on with assistance option. Schools can get assistance from many of these organizations for absolutely free and initiatives don’t have to start as high investment. You can make small changes like recycling and using the cost savings to fund student activities. You can reduce your energy waste by conserving water and turning off computers when not in use.

Representatives from organizations like the Go Green Initiative can help you communicate the “ why” to your community.

<https://assignbuster.com/green-school-initiatives/>

They can help explain why green changes will be profitable to the school in the long term. Once the community has seen the short term savings they will be more open to more long term green projects. You need community support and open communication to successfully incorporate change into any public structure. Having an outside source will also give you vast data from other school districts that have gone through the same changes you are tackling. These organizations can assist you with measurements for your green savings, but more importantly they can also measure your savings to the environment; this is a huge tool that motivates entire communities and makes your school more marketable to new families.

Implementation Plan – Tomika & Kate

1. Determine what your schools objectives are, what do you wish to achieve?
2. Speak with the school board and the community about their ideas, concerns and involvement with any potential project.
3. Contact several organizations like “ Go Green Initiative” and get information on each of them to present to your board.

4. Discuss the different organizations with your board and the community and pick one to work with.
5. Convey to the organization assisting you what your goals and objects are, your budget concerns and specifications. Ask for ideas to implement immediately that will show short term return on investment and improve the school environment.

6. Have a training session and meeting to review all aspects with the school board, superintendent and any interested party. Establish six month goals that are specific, measurable, attainable and timely. Determine who is responsible for data collection and programs implemented. .

Obtain data and review progress in six months. Proceed from there.

Alternative Choice – Tomika The alternative choice would be to have schools manage the projects themselves, beginning with small. They could conduct their own research and check with other local schools to see what green plans have been successful for them.

Most of the steps would remain the same as the chosen alternative but there would be more “legwork” to be done by the schools themselves. From finding green materials and contractors to studying alternatives it would simply be more difficult to get information. It would however be possible. There may be some people in the immediate community with experience that could assist the school with their green initiatives.

Either way schools have to start somewhere and any changes are better than none at all when it comes to the environment. Conclusion-Alicia Going green is very crucial and relevant to the future of the children as well as the planet. Starting the green system within schools is the best thing to do in order to educate the children on the importance of saving the planet, keeping everyone healthy, preserving energy, and saving money. This allows the practice of “going green” while learning and living it at the same time.

Today’s funding in schools is mostly low. Therefore having the option to transition from small changes and then building up to larger more substantial changes is vastly important. Even more important is communication within a community to reach a greater common goal and seeking assistance from an outside source can be a huge benefit when trying to better your community.