

Greg S. Kowalski

Professor Bailey

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Sustainability is a Learning Process

## **Executive Summary**

The purpose of this paper is to point out that sustainability can and should be a learning process. What that means exactly is that sustainability should be something that is learned at an early age and carried on throughout life. While our education system seems overburdened at the moment, teaching sustainability is a task that should be undertaken by our school systems nationwide and supported by federal and local governments as well. This is not to say that the burden should just fall to them, we as citizens need to step up and rally for the cause. While many schools across the country have been taking steps to go green, construct buildings that are more efficient and create education programs that feature recycling and or renewable energy sources, there are still many more that have not. According to Dave Wortman who wrote the piece “Bringing Green Together: Sustainability Management Systems Unite School Sustainability Efforts” for the Green Schools Initiative “What many school districts still lack, however, is a shared vision, set of goals, strategies, and implementation path to drive all of their sustainability initiatives in the same direction – using a whole-school and whole-district approach that engages students, staff and teachers working for a common, more sustainable future along the way. Enter the sustainability management system, or “SMS”. An SMS is not a plan set up by individual schools but rather a district wide plan set up for the whole school system. This includes all facilities within the system and also includes all personnel as well as the students and their parents. While this may seem to be a large undertaking for any school system, it is not without its rewards. The rewards are in form of doing something that is good for education as well as for the environment, but also in the form of saving money while reducing their energy consumption.

## **Introduction**

The issue we face here in South Bend as well as in many of the school districts throughout Indiana is that there are no sustainability programs to speak of in place. This is a major problem in trying to teach sustainability to our future generations. If there are no sustainability programs for the school corporations to follow and work towards a common goal, then there is no way for these same school corporations to teach our children what sustainability is or what it means to our future. Sustainability as defined by the Brundtland Commission in 1987 and posted by the Natural Step USA is “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” While it may seem obvious what needs to be done the problem lies in how to get our local and state governments, school corporations and parents of the students in these schools to come together on common ground for the good of our children and their future. We must all become involved in order to get things started at the local level first and push for what we know is right. Sustainability management systems can and do work and if implemented correctly can save the taxpayers as well as the school corporations money in the long run.

## **Sustainability Management Systems**

The overall problem of not having an SMS in place is that school corporations throughout the state of Indiana are wasting valuable precious resources at a time when school budgets are shrinking in dramatic fashion. The results of these shrinking budgets are reflected in teacher layoffs, afterschool programs being cut, and in school programs such as art or band also being eliminated. An SMS is not a magic wand to be waved and all the problems will go away but it is a tool that if followed has a proven record of success. This should come as good news to the school corporations, that if they embrace this new way of thinking they may solve some of their budget problems along the way. These programs if implemented correctly can teach everyone involved how to work together towards a common goal.

They can help schools to better manage their resources, reducing costs and creating a more positive learning environment. They can accomplish this and help reduce their own impact on the environment at the same time. These SMS programs are also eligible to receive federal and state grant money to get their start. Secretary Duncan of the Department of Education stated in his sustainability speech in 2010 that “we've been mostly absent from the movement to educate our children to be stewards of our environment and prepare them to participate in a sustainable economy.” After these remarks Duncan went on to say he would be awarding grants towards “providing environmentally safe schools and creating sustainable urban developments.” This shows that the US Department of Education is now on board with the SMS movement. While preparing this article it was discovered that only one of the major cities in Indiana has any type of sustainable initiative in the works and that is the Fort Wayne school system, the others that were checked on including Bloomington, Evansville, Gary, Indianapolis, Lafayette, South Bend and Terre Haute could not be confirmed and calls to the same went unreturned. While trying to confirm information for this article for all of the school systems mentioned, their websites were also checked for any information but none was found.

## **Solutions**

There are several success stories to show that the creation of Sustainability Management Systems or Programs work. There are also several studies that help in educating and implementation of these same programs. One such success story is the Denver public school system. Their story begins with a grant from the Colorado governor’s energy office to kick off their sustainability management program. The last five years has seen significant growth in SMP and SMS programs throughout the state of Colorado and their public school systems. The Denver public school system (DPS) sustainability team consists of administrators, technical staff, teachers and students. In the school year 2009-2010 the DPS team saved the district 1,370,595 dollars. This was done through conservation efforts district wide

which includes purchasing of supplies for district wide use instead of by individual schools giving them better pricing as well as purchasing their utilities in this manner. They were also able to reduce their waste output by recycling also saving them money. Here is a look at some of their main initiatives and their success with them:

1. The introduction of mission, goals, and areas of commitment of the DPS Sustainability Team, including the development of a district-wide conservation and education plan and increasing savings to the district through efficiency measures by 20% by 2020.
2. An overview of the cost savings measures initiated by the Team, including a \$251,000 reduction in costs for district gas supply, \$210,000 in costs savings from a computer hibernation program and \$684,000 in rebates and credits from Xcel Energy.
3. Highlights of the conservation and environmental protection measures that have been implemented by the Team, including a commitment to procuring %20 of the district's energy from renewable sources, the reduction of DPS total solid waste amounts by 191 tons through recycling, and the installation of 16 solar arrays across that district that will produce 2.5 million kilowatt hours of clean solar energy.
4. An acknowledgement of the incredible resource and financial support offered by our various partners, including the Governor's Energy Office, Xcel Energy, Namaste Solar, Denver Recycles, and Denver Water.

This was the first year that Denver put their plan in action and you can see the impact it has had and how if efforts are kept up how much more can be accomplished. Another school system doing well with a SMP is also in Colorado and is the Poudre school district "The District has achieved over 120 Energy Star awards from the U.S. Environmental Protection Agency for its holistic approach to District energy efficiency, along the way realizing a cumulative savings in electrical and natural gas costs of over \$2 million through 2010." As you can see there are definite benefits in undertaking such a plan and

many other school systems throughout the US are doing it including Los Angeles, Cambridge public schools in Massachusetts and the Ohio department of education to name a few more.

### **Solution Details**

The few examples presented show that sustainability management systems work and a little detail of what cost savings could be for a comparatively sized school system. What these examples are not showing in detail is what the plan consists of and how the savings were obtained. This is what will be discussed here as well as viewing the only plan that was found that represents any Indiana school systems. The SMS that we would want to look at implementing would be for the South Bend Community School Corporation but could be used as a template for other systems to use. SMS plans cover many different aspects from day to day operations, recycling while reducing waste output, cutting energy consumption in both facilities and car and bus fleets, reducing water usage all the way down to planting school gardens that can be used to educate children on how to grow a garden, how to determine what healthy foods are and also providing fresh fruits or vegetables to the school cafeterias with the proper planning. A lot of the information that will be provided will be coming from the Denver Public School system since they have a well established program with documentation and recommendations on how to start up a sustainability management system. First let us take a look at what the Fort Wayne school system is doing with their program which was started in 2011. The following results are from their first full year. Their first challenges they were looking to address were budget challenges and sustainability. They believe that when they reach their desired results they will have “Significantly reduced energy consumption while maintaining an optimal learning environment and positive stakeholder relationships.” Their target is to get maximum energy savings while “buildings are unoccupied and equipment is not being used,” they are shooting for a fourteen percent reduction in energy here. They hope to achieve this by doing audits of the buildings as well as working out activity schedules they are

also developing energy use guidelines as well as ways to promote awareness. They are promoting awareness by teaching administrators, staff, facility staff, outside contractors and maintenance and operations staff what the optimal environment is for learning. This includes how to operate heating and cooling and lighting systems as well as other equipment in order to get maximum efficiency per how the building is occupied. These were their results for last year:

Energy cost reduction of \$862,333 (April 2012-March 2013)

- After adjusting for weather variations and changes in occupancy

Exceeded original energy savings projections

- Saved 7,721,491 kWh of electricity
- Saved 296,589 therm of natural gas

Successfully applied for over \$200,000 in energy incentives/rebates

- AEP / NIPSCO / Energizing Indiana

Three Energy Star schools

- EPA Program to recognize the top energy performing schools

So as you can see the Fort Wayne community schools had a targeted approach to begin with, picking energy consumption as their first goal to tackle. They used many different avenues to accomplish their first year goals. In Denver they have a different plan of attack so to speak, they developed their plan centering on five different areas of focus that were identified by district and community leaders, and those points were:

- . • Conserve Resources: Energy, Water, Climate, and Green Building

- Close Loops: Waste and Procurement
- Use Land Wisely and for Multiple Benefits
- Prepare Students for the Future
- Support Employees

This is a much broader plan of action, but then again it has been in effect for four years now. Once they identified the areas they wanted to focus on, they presented these, as well as a list of how these changes would benefit the Denver Public School system in order to get people behind their plan. The following is the list of benefits they expect to realize:

- Reduced District energy costs for heating, cooling, and lighting
- Reduced District bus and other fleet motor vehicle fuel costs
- Reduced vulnerability to energy price increases and volatility
- Reduced peak energy demand
- Reduced waste and increase landfill diversion rates
- Reduced water consumption
- Guidance for constructing high-performing schools and other buildings
- Guidance to prepare students for the future with engagement and leadership opportunities
- Guidance for teachers and employees to contribute to District sustainability efforts
- A great example for the community



Denver has a very good Sustainability Management Plan as well as solid framework for which other school systems could alter or downsize as needed. These plans are not without a lot of groundwork which would need to be laid. They would need to involve people at every level from the student and their parents to administrators to those in state and even federal government. There are proven cases that these plans will work, but only with the community standing behind them. While we have only scratched the surface of two or three systems it is easy to see that if the work is put in and a viable plan is put into place that they will work and they will eventually save the school corporations money while at the same time making them sustainable. They are also educating more than students, they are helping to educate the entire community in sustainability and what it means to be sustainable. While much of what has been discussed so far revolves around energy savings and the money saved from it there are other ways these plans can save money and be green. A few examples would be going paperless, which eliminates the need for file cabinets, which then opens up space for other uses. Recycling or composting which reduces the amount of waste needed to be hauled away and in the case of composting would provide much needed compost for any school gardens. Rethinking bus routes to try and make them more efficient saves time and fuel while reducing wear and tear on the busses. So as you can see there are many benefits to be had and many more to be explored.

## **Summary**

Now that we have explored what a sustainability management system or plan is we should discuss why it is a learning process. Since these plans are relatively new and since many people are just now realizing what it means to be sustainable, we all must begin a new learning process, one that includes how to be more responsible with the resources we have and also how to preserve those resources for future generations. The only way we can do this is to change the way we think. We just can't sit back any longer with the attitude that everything is going to be okay because we all know this is

not the case. We all must realize the old saying “without great risk there are no rewards” is not to be taken lightly. The sustainability management plans do come with risks, but with those could be some very great rewards. The single biggest risk to getting a plan such as these in place is securing funding. While this would be the biggest stumbling block since most taxpayer’s are fed up with all the bickering between the board of education and the governor’s office it can be overcome. Many community members are also tired of hearing about how the school corporation is trying to reinvent itself in the wake of losing money to the school voucher system. The truth of the matter is that there is money in the form of federal and state grants that can help get SMS’s off the ground without any initial taxpayer dollars being used. The benefits far outweigh the risks if we can get the right community leaders to back a plan and help to organize an effort to implement it. This type of commitment would have to be matched by the local universities in the area as well local businesses and finally the people of South Bend. The city would benefit greatly from a SMS in the schools, in the energy savings that would be realized. There could be less trash that would have to be hauled away, less water that would flow through the treatment plant and better educated children coming out of our schools that may move on to brilliant college careers and then return here to invest in their future. I implore all of you to reach out to your local school board members, city council members, mayor’s office, and your local state representative or senator and tell them that it is time for action. We need sustainability management plans throughout the state and also right here in South Bend. When enough people begin to band together for a common good it usually becomes a reality, so let’s make this a reality.

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