



Operational Services
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To: Dr. Chris King, Superintendent
From: Dr. Ghita Carroll, Sustainability Coordinator
CC: Joe Sleeper, Assistant Superintendent of Operations and Don Orr, Bond Director
Date: 01/22/09
Re: Midyear Report on Sustainability

Introduction

This fall I have spent a lot of time gathering information about all of the current and ongoing “green” activities in our 55 schools. I have had the opportunity to meet with and learn from many student groups, teachers, BVSD staff and employees, parents, local and national experts, government organizations, and more, to discuss how BVSD can move sustainability forward as an issue of primary importance in our district. I have found there are many existing wonderful activities and programs happening in our school system around sustainability. This memo will briefly summarize some of our existing programs, some exciting developments, and where BVSD is heading in the coming year.

Existing Programs

- BVSD’s 20 year old recycling program and partnership with Eco-Cycle is going strong in all of the schools. Eco-cycle offers educational presentations and field trips on numerous environmental topics and provides on-site collection for recyclables and compost. Eco-Cycle gives presentations to approximately 25,000 BVSD students annually. A subset of Eco-Cycle’s School Recycling and Environmental Education Programs is the Green Star Schools program. BVSD will have 17 green star schools by the end of the year. Green star schools are moving toward zero waste by implementing composting school-wide, increasing recycling efforts, hosting special events around waste reduction and implementing other waste reduction activities in the schools (ecocycle.org). According to Eco-Cycle, “Green Star Schools are the first in the nation to reduce waste in every aspect of school life. As a result of implementing the program, up to two-thirds of the discards from each of the Green Star Schools is kept out of landfills.” (Ibid.)
- BVSD has adopted energy efficiency practices such as installation of a district-wide Andover energy management system. This system allows more control over the heating and cooling ranges in our buildings, and BVSD can thus optimize energy usage. BVSD has also replaced florescent fixtures district-wide with more efficient T-8 lamps and electronic ballasts, has installed occupancy sensors district-wide to control lighting, and has replaced all EXIT signs with more efficient LED lights. BVSD is also making ongoing changes as needed, such as replacing older inefficient boilers with new energy efficient models.
- In the 2006 Bond, Phase I projects included many green technologies and sustainable design concepts. I am currently creating a summary report of this information, which will be complete

in the next month. Some examples include: Maximizing daylight where possible; including the use of skylights and solatubes in some cases; installing low flow water fixtures; using non-toxic paints and adhesives; diverting construction waste from the landfill; using materials with recycled content; and reusing existing building structure and materials where possible.

- BVSD continues to use a mix of biodiesel (a renewable fuel for diesel engines made from natural oils) in all 195 buses, and all district vehicles and equipment using diesel. For the 07/08 school year BVSD used 233,671 gallons of B5 and 23,929 gallons of B20. Additionally, BVSD has eight buses running on compressed natural gas, a clean transportation fuel.
- Since the fall of 2006, BVSD has received nearly \$200K in federal funds to improve conditions for walking and cycling at 23 schools. Presently, the Safe Routes Bike Rack Project will provide new parking for more than 450 bicycles at twenty schools.
- Many schools have active environmental clubs. These groups have organized activities such as school tree plantings, a school-wide symposium and day of action focused on climate and energy policy, and school-wide energy audits.
- There are many organizations offering supplementary lessons on a range of topics, including; water conservation, waste management, wildlife protection and gardening. These organizations include, for example, Eco-Cycle, the Growe Foundation, Calwood, CU Science Discovery, Thorne Ecological Institute and the City and County of Boulder's Open Space Programs.
- Seven of BVSD's schools and facilities are using renewable energy technologies (including solar photovoltaics, wind and geothermal) and many more are candidates for future installations of renewable technologies.

New Fall 2008

- Casey Middle School is now in the demolition and construction phase as part of the 2006 Bond program. Casey will be BVSD's first school built to the Leadership in Energy and Environmental Design (LEED) Gold standard. LEED represents a nationally accepted benchmark for green buildings. As part of the deconstruction process, the Bond team is working to divert as much material from the landfill as possible (up to 75%). This is being accomplished through reuse (district-wide, within the community and through partnership with Resource) and recycling of materials.
- As part of the 2006 Bond, BVSD constructed a synthetic field at Nederland High School. This is the district's sixth synthetic field, and completes the conversion of all high school fields to a synthetic alternative. Synthetic fields use no water or pesticides and reduce maintenance costs.
- BVSD received a grant through Xcel Energy to do a retro-commissioning study, or energy "tune up", at Centaurus High School. This study will take place over the next year, to capture the change in heating and cooling requirements throughout the seasons. If this pilot project is a success and helps us discover further resource saving opportunities, I will identify other schools for retro-commissioning projects.
- BVSD has been selected as the first school district in the state to participate in a pilot integrated pest management (IPM) program. IPM uses a variety of pest control methods, focusing first on those least harmful to the environment.
- BVSD has been selected by Xcel as a primary participant in Xcel's new Smart Grid program. Xcel will be placing smart grid meters on all BVSD schools in the City of Boulder. This will give us more accurate billing data, and very timely information about how our buildings are using electricity, which will be invaluable for future energy education campaigns.

- High school science materials and curriculum standards are currently under the review and adoption phase, and I am working closely with this process to include concepts of sustainability into the standards and materials where applicable.
- This fall the school district converted to paper with recycled content, which is now stocked in the warehouse. In one year, the paper switch will require 182 tons less wood, 877 million BTU's less energy, 459,385 gallons less water and will save 110,674 lbs of greenhouse gases from entering the atmosphere and prevent 58,992 less pounds of solid waste from entering landfills. (Environmental impact estimates were made using the Environmental Defense Fund Paper Calculator. For more information visit <http://www.papercalculator.org>.)
- Many of our departments are switching to a paperless distribution of newsletters and documents and are using greener business practices in daily operations.
- BVSD's Alternative Transportation Program continues to receive national accolades. Bear Creek won the National Center for Safe Routes to School "2008 Oberstar Award" which recognizes outstanding achievement by a school or community in establishing a Safe Routes to School program with Federal funding. Bear Creek was specifically recognized for the school's high percentage of students (70%) who walk and bike to school throughout the year, corresponding programs, and resulting reduction in traffic.
- Other expanded areas in alternative transportation include: The Education Center and Arapahoe Campus had an eco-pass program available for staff in the fall; BVSD bought the district's first hybrid vehicle for the small fleet used for night-time security monitoring; and an Advisory Committee is developing BLAST curriculum (Bike Lesson and Safety Training) to teach 5th- 6th graders in PE basic bike-ped skills and prepare them to be safe and effective users of "active transportation."
- BVSD is transitioning to the use of green cleaners in schools. Custodians have been diligently testing products to discover those products that best accomplish the goals of cleanliness and a healthy environment.
- I have created guidelines for hosting zero waste events at the new Professional Development Center (PDC) in the Education Center. These guidelines have been distributed to relevant staff and zero waste is something we will strive for over time for events held in the PDC.
- I have started offering regular tips and green updates in BVSD's On the Inside.
- I have been involved with discussions about new course opportunities for green job training with the Community Schools Program, the Technical Education Center and the City of Boulder.
- When you see the BVSD logo in green, this signifies BVSD efforts that fall under the umbrella of environmental sustainability.

Coming Spring 2009

- BVSD will engage in the development of a Sustainability Management System (SMS), with a third party facilitator. This will involve multiple stakeholders both within and beyond our organization. This process includes, but is not limited to, the following activities:
 - Developing a baseline inventory of district-wide energy and water consumption, solid waste generation and diversion rate, fuel consumption from fleet transportation activities and associated greenhouse gas emissions;
 - Conducting interviews and working with department teams to compile information on existing programs and practices as well as future goals related to sustainability;
 - Developing short and long term visions and goals around sustainability and creating strategies for meeting these goals; and

- Creating a final written deliverable, an SMS document, that will convey the final proposed SMS, including recommendations, an executive summary, introduction/background/approach, a baseline inventory summary, prioritized goals and strategies. The SMS document will also include a section on funding, including potential funding sources such as grants and rebates, as well as a discussion of organizational considerations, including staff members responsible for championing this work.
- In conjunction with the SMS process, and in partnership with the State Governor's Energy Office, BVSD will create specific goals around sustainability for Phase II and Phase III bond projects coupled with a timely edit and update of BVSD's technical specifications.
- BVSD is partnering with the Center for Resource Conservation's "Renew our Schools" Program to award, via a grant application process, 2-4 solar arrays to BVSD schools in Boulder County.
- I will work with the University of Colorado to offer more opportunities for energy audits at BVSD schools and create a self energy audit for schools.
- I will work with the IT Department to explore new energy saving options and features available as a result of BVSD upgrades to IT, made possible by the 2006 Bond.
- I will work with Business Services to develop a website to host information about our sustainability practices and initiatives.
- I will continue to explore funding opportunities and further ideas for collaboration, including partnerships with the City, County, State and the University of Colorado. In the coming months, the Board of Education will be presented with a resolution for review supporting collaborative efforts between these entities.

Conclusion

BVSD has many great existing programs and activities throughout the district. I would like to build on these successful programs, and coordinate these and future efforts around well defined visions and goals for district-wide sustainability. I have been met with a great deal of enthusiasm both within and outside of BVSD and I am looking forward to working with this community to make BVSD a leader in environmental sustainability.

Additional Resources

"Greening BVSD" found on <http://bvsd.org/bondproject/Pages/default.aspx> under the "What's Green in the Bond Program" section.

State Governor's Energy Office, <http://www.colorado.gov/energy/>

U.S Green Building Council, <http://www.usgbc.org/> for more information about LEED.