

ALLIANCE FOR INNOVATION

14<sup>th</sup> Transforming Local Government Conference, 2008, Greenville SC

**CREATING SUSTAINABLE FUTURES:  
GLOBAL ISSUES/ LOCAL SOLUTIONS**

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**Application Details**

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Title of Presentation: City of Charlottesville Schools' Environmental Sustainability Program

Presentation Category: Environment

Jurisdiction: City of Charlottesville, VA

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**Synopsis**

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In the summer of 2006, the Charlottesville City Council endorsed the signing of the US Mayors Climate Protection Agreement by Mayor David Brown.

In order to meet the objectives of this agreement to meet or exceed the Kyoto Protocol on reducing emissions – and to further develop the Cities’ existing Environmental and Sustainability programs – the City has been developing many initiatives, including public education and retrofitting City facilities.

The City, which provides facilities management services to the Charlottesville City School system, launched an ambitious Energy and Environmental Sustainability Program in the Fall of 2006. In essence, this was an innovative energy efficiency competition between City schools, with the aim of reducing 2.9 million pounds of CO<sub>2</sub>, a reduction of energy use by 10%, across all City schools in one year.

The monetary savings realized by these energy efficiency efforts were used in 4 key ways by both the City’s facilities management program and the schools themselves:

1. They were invested in funding improvements to the school facilities.
2. They were used to fund additional educational efforts to improve sustainability awareness.
3. Cash prize awards were then made to each participating school based on their individual energy savings. These were made in the form of quarterly cash disbursements for use at the discretion of the school board. This hugely successful incentive scheme resulted in a range of financial awards – from zero for no savings achieved to nearly \$8,000 a quarter for a school showing a huge improvement.
4. Finally, savings were used to purchase equipment and materials to begin Green Cleaning and recycling programs for the schools - both projects are now underway.

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#### **Presentation Components**

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##### **Innovation/ Creativity**

As City leaders, managers, and citizens have become increasingly aware of the impact of their activities upon the environment, invoices for school utilities, budget projections and facility improvement planning began to reveal a third dimension, if you will.

Student, teacher and staff use of these buildings have as much influence on utility consumption – and the resultant greenhouse has emissions – as do energy-efficient lighting systems and mechanical equipment. By equating energy consumption directly to greenhouse gasses, our responsibilities as guardians of the government coffers were expanded to include environmental protection, a responsibility that could be shared with every building occupant.

The development of the program began with City managers and School administrators. Much of the credit for the success of the program, however, belongs to the principals, teachers, and custodians who brought the practical applications of environmental awareness into the classroom. EPA-developed lesson plans were shared with School administrators, to serve as “jumping off” points for teachers, who ultimately developed into their own unique takes on the matter. For example, math teachers used raw utility data sets for lessons ranging from simple addition and subtraction to advanced data modeling.

Facilities Maintenance operations typically deal directly with school administrators and department heads in a support role. This program required the assumption of a leadership role, driving change instead of responding to it. Staff members were excited by the challenge and rose to it admirably.

##### **Value Proposition**

The shifting barrage of personal, political and environmental warnings and guidelines that face citizens and government perhaps defines the modern era. What is bad for us one day is good the next. What were standard procedures a few years ago can become frowned upon, or even illegal, overnight.

This landscape can become overwhelming to citizens, and places a new burden of stewardship on local governments, which must sift through the warnings, the regulations, the guidelines, identify what is best and right, and creatively implement any necessary changes. This program was a prime example of this principle, as local government became a guide and teacher to the school system itself.

## **Building Organizational Capacity**

The greatest challenge of this program has been to educate and achieve “buy-in” from busy school administrators and teachers. This was accomplished first by a top-down approach, educating and convincing the schools superintendent and school board. More difficult was the task of engaging busy principals and teachers. Staff committed time each month to sitting down with each principal, reviewing the month’s utility data, and sharing energy conservation tips and sample lesson plans.

## **Management Philosophy and Culture**

We adopted a philosophy of open-minded, cooperative inquiry and problem solving. Throughout the school year, teachers, students and staff continued to come up with good ideas for saving energy, both in the school and in their homes.

## **Integrated Processes and Reengineering with the Use of Technology**

The creative process and application of the project was developed with no outside consultancy, was developed using technologies and means already at the disposal of the City and was successfully achieved with no initial budget.

## **Applicable Results and Real World Advice**

Focus was a driving factor. Together, the Charlottesville City Schools are among the largest consumers of natural resources in the region, holding in excess of 1.6 million square feet of property assets. Although intelligent building operation has been at the forefront of the City efforts for some time, the signing of the US Mayors Climate Protection Agreement provided an important framework for these efforts.

The application of targets and incentives to this program meant that it became in every actor’s interest to succeed. It had the added bonus of providing the opportunity for student involvement and, as the targets were quarterly, it could be demonstrated to students that a combination of many small changes over a short period of time can lead to big results.

Together, the City of Charlottesville and the wider School communities developed awareness of the connections between choices as consumers and our natural environment. That awareness will be carried into homes, ultimately enhancing the awareness of the region as a whole.

The success of this project, therefore, is not only demonstrated quantifiably, but also in the immeasurable contribution to much of the community both in sense of air quality and in education on matters of energy conservation.

As of February 2007, the following reductions have been realized:

<b>Coal</b>	<b>691,443</b>	lbs
<b>Sulfur Dioxide</b>	<b>1,423</b>	lbs
<b>Nitrogen Oxide</b>	<b>3,657</b>	lbs
<b>Carbon Dioxide</b>	<b>1,531,289</b>	lbs