

## **Application for FMXcellence**

**Name:** Philip A. Berman

**Title:** Executive Director for Building Services

**Company:** Charlotte Mecklenburg Schools

**Please provide an overview of one completed FM project/initiative or ongoing FM practice/program that supports the goals of the larger organization. Projects must be completed to be considered. (Limit responses to no more than 2,000 words.)**

Sustainability - Environmental Stewardship Charter

- **Overview:** CMS strives to establish a system for continual improvement of environmental performance measures within the scope of Charlotte – Mecklenburg Board of Education Policy ECF, which was implemented in July 2008 to include an energy conservation focus. The Strategic Plan 2014 Focus Area V: Environmental Stewardship was adopted with the goal of reducing all utility consumption by 20%, solid waste by 5%, and pollutants by 20%. These goals established aim to provide both environmental and financial returns to the district. The key strategy of the charter is to “engage all stakeholders in conservation of resources.” Success is dependent on the engagement to staff, students and the community.
- **Key Stewardship Functions:** CMS has the largest environmental footprint in Mecklenburg County. We have 181 schools, 649 buildings, ±19,000 employees and ±140,000 students in pre-kindergarten through 12th grade occupying over 21 million square feet of building space on nearly 5,000 acres. The district uses more than 350,000 reams of paper each year; 3.5 million gallons of fuel in its fleet of 1,150 buses traveling 115,000 miles daily; 226 million kilowatts of electrical power to operate schools and offices, and 3.5 million therms of natural gas. Annually, CMS provides 23.5 million meals; consumes more than 256 million gallons of potable water, and generates more than 20 million pounds of solid waste. All of this consumption is part of the district’s daily business cycle of educating children and it all affects the environment. Auxiliary Services is working to bring the district into compliance with the International Standards Organization (ISO) 14001 standards. ISO has established a rigorous standard for environmental management systems which is recognized around the world for comparing outcomes.
- **Governance:** Energy and natural resource consumption have become issues of paramount importance to the sustainability of business operations and are increasingly of interest to the public. Federal, state and local initiatives have been enacted providing the basis for environmentally sound government direction and decision making.
- **Budget:** CMS is committed to this charter as a cost – neutral project.

**Describe the larger organizational goals or challenges addressed by the project or practice. Include any impacts that the project or practice had on**

## **building occupants. Limit responses to 1,000 words.**

### Major Initiatives

Recognizing the business value of environmental improvements, CMS has implemented strategies to reduce CMS' environmental footprint and the cost of operations. Below are some examples of current environmental initiatives:

**Energy Management:** Each school has an energy coordinator who receives monthly school – specific reports from energy management staff on energy consumption. Through a partnership with the United States Department of Energy, CMS utilizes Manager Pro software to track and evaluate and reduce energy use at each school.

**Emission Reduction and Alternate Fuel Grants:** The Transportation Department has received over \$1 million from state and local grants since 2007 to improve air quality. Transportation recently received a 2008 Mobile Source Emission Reduction (MSER) grant from the North Carolina Division of Air Quality to repower three activity buses with 2008 emission-level engines and a 2009 Congestion Mitigation and Air Quality (CMAQ) grant from the North Carolina Department of Transportation to retrofit 14 fuel trucks, two activity buses and 44 school buses. CMS Transportation has, in the past three years, has successfully reduced in excess of 2 million operating miles; therefore reducing emissions and fuel consumption.

**Resource Recovery and Recycling:** The district collected more than 10,000 ton of solid waste in 2009. CMS is securing a solid waste characterization audit that will classify those solids being sent to landfill and provide input into sustainable purchase decision – making.

**Equipment Modernization:** The CMS Print Shop decommissioned two chemical intensive printing presses, replacing them with state-of-the-art environmentally friendly Xerox IGen3 3 dry printing equipment. More than 80 percent (by weight) of the waste generated by the IGene3 - including consumables such as dry ink (toner), packaging and parts – can be returned, reused or recycled. The Print Shop has also converted from chemical – based film developing to digital photography.

**Stormwater Pollution Prevention Planning:** CMS participates in the county's stormwater- controls program by maintaining 39 rain gardens. CMS projects exceed minimum regulatory standards

**Chemical Inventories:** CMS has established a chemical inventory in which material safety data sheets and the inventory of chemicals used by Building Services are accessible on the CMS Web site.

**Integrated Pest Management:** CMS utilizes integrated pest management, which is a comprehensive approach that combines biological, physical, chemical, and cultural tactics as well as effective, economical, environmentally sound, and socially acceptable methods to prevent and solve pest problems.

**Sustainable Development:** CMS' high performance design guidelines have been established as a guide to sustainable development at CMS projects. We ask our contractors to provide environmentally responsible supplies, services and/or construction in CMS.

**SMART (Special Maintenance Assignment Response) Team:** CMS has developed, trained, and achieved medical clearance for an in – house special

maintenance assignment response team to address minor asbestos and mold issues.

Student and Community Engagement: Duke Energy's "Get Energy Smart" program for third-and fourth-grade classes free to teachers in any school that uses Duke Energy. This program includes a Mrs. Frizzle book about energy efficiency, four activities to do with the class, and a post-activity survey to take home to parents.

Duke Energy sponsors a student weeklong immersion experience and a teacher weeklong immersion experience to learn about how energy is produced, how to conserve it and the careers connected with energy production. These teachers write lesson plans that are available for other middle and high school science teachers on energy topics.

Middle schools may participate in a Coca Cola recycling project. This project includes educational presentations by Coca Cola experts on recycling. School collect plastic bottles and can for recycling. The money earned from these recyclables is used by ecology/environmental clubs in participating middle schools.

All CMS students are required to complete earth/environmental science. The topics of stewardship and sustainability are written into each unit of the CMS pacing guide.

Students are recognized at the annual Mecklenburg County recycling Awards Ceremony. In 2009, Commissioner Chair Jennifer Roberts presented three students delegations with awards for outstanding recycling efforts.

CMS staff routinely presents environmental best practices presentations at local, state and national events, which are typically sponsored by the hosting agency or the US EPA.

**Describe results achieved. Include quantitative and qualitative results. For quantitative results, describe the way that results were measured or evaluated. It is helpful to put savings results in some context – as a percentage of the overall facility or energy budget, for example. Energy and water savings results should be based on hard data, e.g. metered data or utility bills. If the project or practice involved the creation of metrics/measurements, use this space to provide more detail about the metrics program. Limit responses to 1,000 words.**

## Results

Existing environmental measures rooted in CMS' commitment to environmental stewardship illustrate both environmental and financial returns.

- CMS has achieved \$2.5 million in energy savings in 2009.
- The US EPA awarded CMS the National Model of Sustained Excellence Award for indoor air quality programming.
- Over sixty (60) of our schools are Energy Star-rated for conservation and we are obtaining plaques to recognize this for each qualified school.
- CMS recycles approximately 1,327 tons annually, which equates to about 11 percent of the solid waste removed from CMS schools during the year. Single

stream recycling has been instituted by CMS and Mecklenburg County and should drastically improving the metrics.

- The Transportations Department bus stop consolidation is expected to save \$2.4 million in 2009-2010, representing a reduction of more than 31.6 metrics tons of carbon emissions daily.

#### Next Steps

- Fully implement district – wide recycling to increase recycling activity. This will reduce the overall amount of waste entering landfills and reduce transportation waste.

- Conduct waste stream audit to better understand natural resources brought into and sent out of the district.

- Pursue Energy Star – rating for schools to engage schools and the community in the energy conservation efforts that result in reduced greenhouse gas emissions.

- Develop and implement communications plan to inform both internal and external stakeholders on resource conservation and cost-saving measures, educational opportunities and other stewardship activity

- Reduce energy consumption to lower the cost of operating district facilities and reduce pollution.

- Implement sustainable purchasing plan to encourage district personnel to actively seek our environmentally preferable products and services for use in day-to-day operations.

- Achieve “Rising Steward “status putting CMS on the path to be the first school system recognized in North Carolina as a “Rising Environmental Steward.”

- “Right size” fleet to reduce automotive emissions, which would lower overall ozone levels in our area.

- Build the first Leadership Energy Environment Design (LEED) – certified prototype elementary school in CMS.

- Develop and implement environmental stewardship incentive plan that should provide monetary rewards for schools that achieve measurable results.

**Describe methods used to communicate the results of the project or practice to the greater organization. (If the project or practice was a communications effort, use this space to provide more detail about the communications program.) Limit responses to no more than 500 words.**

Effective environmental stewardship will require educating parents, students and staff as well as fostering institutional change. Engaging all stakeholders, creating an awareness and sense of individual responsibility around environment management, and wise use of resources is a fundamental requirement for success. The commitment of CMS leadership is essential and employees to support environmental stewardship is essential is to the success of this project.

The attached/linked Environmental Stewardship Guide, which can be accessed from the CMS Environmental website by the public, is an example of the many resources that are available on the CMS website to communicate best practices and examples of accomplishment. The CMS Environmental Stewardship Charter is being implemented by seven (7) tactical teams. Results

are reported to Senior Staff and the Charlotte-Mecklenburg School Board in accordance with Strategic Plan Charter Protocol.