



Color of Choice...Green.
As students get ready to return to school and parents take school supply lists in hand, consider making a lighter environmental footprint in the process and pack their backpacks with environmentally friendly school supplies.

Green Lingo: Cogeneration

Cogeneration, also known as combined heat and power (CHP), is the process of simultaneously capturing useable heat while generating electricity at one facility. While conventional power plants release heat energy generated during electrical production, cogeneration plants trap this byproduct heat for use in industrial, commercial, or even residential applications. It is regarded as an effective method of energy conservation, can lower harmful emissions typical of conventional plants, and is one of the most common forms of energy recycling.

Approximately 8% of U.S. electricity production is currently done through cogeneration. A high-profile example can be found in Manhattan, where over 100,000 commercial and residential entities are served by steam produced from cogeneration. Cogeneration is being considered an important part of our nation's clean energy portfolio, and the US Department of Energy has established a goal of 20% electricity production through CHP by 2030. Thus far, cogeneration has been most prevalent in northern Europe, particularly in Germany and the Scandinavian nations.

Green Product of the Month: Kingston Brick and CMU Blocks

As stated on the Kingston website, "Our line of sustainable CMU contains up to 30% post-consumer Supplementary Cementitious Material (SCM). Pozzotive® is the only white, post-consumer pozzolan that lends itself to the creation of white CMU, taking advantage of its high solar reflectance and high albedo effect. Pozzotive Plus(TM) CMU contains up to 100% regionally recycled post-consumer aggregates in lieu of virgin mined aggregates. Pozzotive® is a high performance SCM derived from post-consumer waste glass recovered within the U.S.A., thus saving valuable landfill space. It can replace up to 30% of both white and gray Portland cement." (http://www.kingstonblock.com/pozzotive_12_1400682169.pdf)



Green Current Events: Green Highway

Finland wants to build the world's first "green highway", with service stations offering charging points for electric cars, pumps filled with local biofuels, and possibly installing geothermal heat pumps, "smart" lighting, and providing information to users on their emission levels and the impact they are having on the environment.

The plan involves using waste and other resources from the region the new road will pass through to produce ethanol, other biofuels, and electricity to keep the most environmentally-friendly cars on the green highway running. Pumps with fossil fuels will also be available for "normal" cars. "The aim is to create the model for an ecological highway that could be used even on an international level," said Aki Marjasvaara with the Loviisa municipality spearheading the project.

The project concerns the remaining eastern 130-kilometers (81 miles for us Americans) stretch yet to be built on a highway linking Turku on Finland's southwestern coast with Vaalimaa near the Russian border. The Project cost is estimated at 700 million euros (900 million dollars) and is anticipated to be complete by 2016.

Green at Pare: Project Highlight

PARE has been working with the Town of Bristol for the design and construction of the first Gravel Wetland Water Quality BMP permitted in the State of Rhode Island. Over the past several years the Town of Bristol's Town Beach has seen an increase in multiple beach closures after periods of heavy rain due to elevated levels bacteria, a result of untreated stormwater from two stormwater outfalls north of the beach area. The Gravel Wetland Water Quality BMP option was chosen for the purpose of improving water quality from untreated storm water discharging to a coastal wetland and ultimately Narragansett Bay and the Bristol Town Beach.

The gravel wetland is a 5-foot deep depression with a detailed vegetated planting plan along the sides and bottom consisting of two wetland cells and a sediment forebay. There is a 24-inch deep layer of stone beneath the wetland soils lining each wetland cell. Perforated riser pipes at the upstream end of each cell convey stormwater into a perforated pipe set within the stone layer. Stormwater filters horizontally to a perforated underdrain in the stone layer at the downstream end of the cell. This underdrain directs water to the downstream cell for additional treatment and eventually the outfall. A series of weirs is provided to separate the cells and provide an aesthetic value to the stormwater feature. An outlet control structure in the downstream berm will control the discharge from the feature.

It is also expected that the proposed gravel wetland will provide an educational opportunity for the numerous organized educational programs run by the Town that utilize the Town Beach and Sports Facilities, through the construction of an educational kiosk that will explain the function and water quality advantages of the system.

Contact Briscoe Lang or Dave Potter for more information on this project.

