



April 28, 2011

Comments on Draft Scope for the 2013 New York State Energy Plan

The Museum Association of New York and the Community it Serves

As the only statewide organization dedicated to promoting the health of the state's diverse, world-class museum community, the Museum Association of New York (MANY) is a key information and networking resource. Founded in 1962, MANY is nationally recognized for programs and services addressing legislative and policy issues, trends, and capacity building.

The state's 1,900 museums are repositories of our culture and symbols of our collective, intangible wealth as a society and a civilization. The scale and scope of these institutions also allows New York to be culturally competitive internationally. They annually employ 17,000 people and they generate more than \$1 billion into the state's economy each year. In fact, the New York State Bureau of Labor Statistics projects museum employment to grow by 3.1% until 2016.

By the end of this year, it is projected that the state's museums, historic sites, botanical gardens, zoos, arboreta and aquaria will welcome at least 60 million visitors and students who will spend billions of dollars on admission tickets, gift shop purchases, meals, and related travel items. As part of a vibrant arts industry, museums and heritage organizations along with other nonprofit art organizations created a \$26 billion impact on the state's economy in the most recent reporting of that data by the Americans for the Arts.

As a result, New York State's museum community is central to the state's economic vitality. They help create community identity, function as economic engines, and provide educational opportunities for schoolchildren and their families that are not otherwise, in many areas, available. They are a key reason why tourism is the second largest industry in our state.

And they are assets that won't be leaving New York for greener pastures elsewhere.

Museums and Energy Consumption

By their nature, museums and heritage organizations are large energy consumers. Even without the recession, museums throughout the state struggle with the high cost of energy. Specialized environments for the preservation and protection of collections require constant climate control and security systems. Many museums struggle with historic properties that require customized energy solutions or aging equipment that is not energy efficient and is costly to replace. In addition, the state's museums do not have access for maximizing the opportunity to reduce electricity or natural gas costs through wholesale purchases of energy.

Green behavior is part of responsible museum management and community engagement, and it supports our missions financially and philosophically. Recent polling conducted by MANY found that more than half of responding museums and heritage organizations are instituting environmentally-friendly programs and/or upgrades, seeing these efforts as a way to lessen operating costs while supporting mission. Poll respondents stated:

- “The replacement of all incandescent light bulbs with compact florescent units saves thousands of watts of usage annually. Installation of programmable thermostats, storm panels on almost four dozen windows, and high efficiency fans has significantly improved energy efficiency efforts.”
- “Energy is a major part of the interpretive and collections story of the museum. Sustainability is key – historically and for the future. Our interpretive offerings have turned toward "green" messages and will continue to evolve in that direction.”
- “It aligns us with organizations for which this is the main thrust and gives us access to their constituencies.”

Recommendations

MANY seeks opportunities to partner with the New York State Public Service Commission, the New York State Energy Research and Development Authority, and the New York Power Authority to examine the energy needs of the state’s museums and to develop programs to assist museums in managing their power costs through energy efficiency improvements, competitive or bulk purchasing, and/or buying “green” electricity at reduced rates.

These New York State Museums are Leading the Way

Burchfield Penney Art Center, Buffalo

The Burchfield Penney Art Center has become the first art museum in New York state to be certified by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program. The museum has received silver certification having met rigorous standards in the areas of site sustainability, water use and efficiency, reduced use of energy and atmospheric impact, use of materials and resources, improved indoor air quality and innovation and design process. In addition to LEED recognition, the museum will be a participant in the New York Energy Smart New Construction Program, meeting state standards to reduce energy usage and consumption.

Brooklyn Children’s Museum

Brooklyn Children’s Museum is slated to be New York City’s first green museum, as certified by the Leadership in Energy and Environmental Design (LEED) program of the U.S. Green Building Council.

The Museum integrates many of the latest environmentally responsible building materials, systems, and management practices. Wherever possible, the architectural design specified green materials—those made from renewable sources or with high levels of recycled content. In keeping with the Museum’s commitment to education, programs and exhibitions will teach visitors about energy efficiency and environmental conservation.

- ***Geothermal Heating and Cooling System***

The new Museum features an innovative geothermal system that draws stable-temperature water from Brooklyn’s underground aquifers to a series of heat pump air handlers that control the temperature of the building. This system offers significant improvements in energy efficiency over traditional boiler systems and eliminates noisy rooftop chillers and the need for treating waste water.

- ***Solar Energy***

Photovoltaic (PV) systems integrated into the building design convert solar energy into electrical power. The solar energy captured through PV panels will offset electrical requirements and provide a dramatic visual demonstration of alternative energy systems for families and school children.

- ***Energy-Saving Sensors***

State-of-the-art sensors control the performance of the heating and lighting systems, ensuring the comfort and safety of the Museum’s visitors and reducing energy use at the same time.

- ***Carbon Dioxide Sensors***

The museum’s ventilation system automatically adjusts to accommodate the number of visitors in each space at any given time, using sophisticated carbon dioxide sensors and computerized controls. Because air exhaled by human beings contains carbon dioxide (CO₂), the level of CO₂ in a room rises when more people are present. When this happens, the sensors signal the ventilation system to circulate more air containing oxygen through the space. Conversely, when fewer visitors are in the Museum, the ventilation system will slow down, further reducing energy costs.

- ***Occupancy Sensors***

Occupancy sensors that detect the presence of body heat or motion will control the lights in offices, classrooms and restrooms. No people, no lights. In addition, the general lighting in the Museum uses super efficient, cool-burning low-energy light bulbs.

- ***Daylight Sensors***

Daylight sensors regulate the amount of artificial lighting needed at any given time. Photoelectric cells dim indoor lights when there is an abundance of natural light and brighten the electric lighting at night or in cloudy weather.

- ***Renewable and Recyclable Materials***

Sustainability is a primary consideration in the choice of finish materials and surface treatments. Special attention is being paid to materials with high levels of renewable or recycled content, including bamboo, cork, rubber and linoleum flooring and carpet.

The Wild Center, Tupper Lake

The Wild Center/Natural History Museum of the Adirondacks, a new museum complex in Tupper Lake, New York, has earned distinction as the first LEED certified museum in the State of New York.

Through a series of integrated sustainable strategies that are expected to save between 20 percent and 30 percent of its normal operating costs, The Wild Center exceeded the base LEED certification to earn a Silver distinction. The LEED system provides a roadmap for measuring and documenting sustainability across six categories: sustainable site including construction activity pollution prevention; water efficiency; energy and atmosphere; materials and resources; indoor environmental quality; and innovation and design process.

The Wild Center collaborated with the architectural firm HOK to address many of the LEED criteria in the museum's original main building and campus design. While planning its new solar-powered BioBuilding, which houses administrative offices, the museum employed the same LEED priorities with assistance from HOK, the Office of Charles P. Reay, and Phinney Design Group.

The Wild Center also represents the first LEED certified project in the entire 6-million-acre Adirondack Park. Larger than the state of Massachusetts, the park is unique in its bio-diverse ecological composition, epic natural events, glacial formations, and as a sociopolitical model that showcases how humans and nature can coexist.

About 10 percent of the museum's power comes from a 40kW photovoltaic array on the roof of the Bio Building. The rest of the electrical power is generated by Niagara Falls.

Stormwater from the roof is collected and channeled into the pond next to the building. Composting toilets help reduce water consumption.

A well-insulated building envelope, low VOC materials, efficient air filtration, air quality monitoring, staff and visitor surveys and a digitally controlled building management system combine to create a productive, healthy indoor environment.

Fort Ticonderoga, Mars Education Center

The Deborah Clarke Mars Education Center has enabled the museum to create a modern facility inside the walls of the Fort to serve as the home of the museum's educational programming. While the exterior of the building strives to be an accurate recreation of the appearance of the building as constructed over 250 years ago, the interior spaces are all modern to support the diverse array of educational programs offered within. The 15,200 square foot facility houses two spacious education rooms and a climate controlled exhibition space for regularly changing exhibits. The space below the Fort's southeast bastion was also renovated to serve as a large "great room" to host seminars, conferences, concerts and a multitude of large gatherings and events.

The building is equipped with a state-of-the-art geo-thermal heating and cooling system designed to provide a comfortable environment inside the building year round. The building was reconstructed

from stone quarried locally and utilized local labor force to build the structure. The Deborah Clarke Mars Education Center is slated to achieve a silver LEED rating from the U.S. Green Building Council. The facility is also houses restrooms and is equipped with an elevator to provide handicapped accessibility to upper viewing areas of the Fort and second floor exhibits in the Soldiers' and Officers' Barracks