WELCOME
ENERGYPATH 2015
LED Lighting of Churches & Historical Buildings.
Mark R. Murphy, Sustainability Director
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SAVING THE WORLD

1. Sustainability "Meeting the needs of the present without compromising the ability of future generations to meet their needs." (The U.N. Brundtland Commission 1987)


4. Climate Change, Global Warming.


6. ZERH, zero energy ready design (50% energy reduction).

7. Passive building design (90% energy reduction).

8. Renewable Energy…..
IT IS REAL, BRING A VOICE TO THE GLOBAL CRISIS.......
Local Coal Burning Electric Generating Facility, built 1972, 43 years old.

Millions of tons of coal are burned each year to produce electricity. Millions of pounds of air pollution are produced. If we don’t use the electricity, the electric companies do not have to make it, therefore they did not have to burn fossil fuels to create it. Not using electricity reduces pollution. EASY!
Purpose:
- Reduce energy usage, reduce maintenance costs, improve reliability, improve lighting levels and lighting quality.

Introduction:
- Churches and historical buildings present a unique challenge for LED lighting designers. People that use these spaces are usually already happy with them. The goal of a good lighting project is to make it look like it was never done. This presentation will point out the details that need to be watched to make for a successful project.
Abstract:

We did our homework, met with vendors, tried samples, purchased many light bulbs, compared power consumption, price, color, light quality, design, existing conditions, and measured light levels. The good news is that here at the University of Scranton we have found the right LED lights to use in our classrooms, conference rooms, hallways, dining areas, churches, and historical buildings. Our projects are financially sound and reduce electrical usage by 60% to 88%. We have lighted some of our most sensitive places on campus. The Scranton Estate Admissions Center, Madonna Della Strada Chapel, Sacred Heart Chapel, and Houlian-McLean Concert Center.
Procedure:

1. Successful lighting projects require an understanding of how the space is used and who is using it. You can only get this information by interviewing the users of the space. Ask if it is bright enough, can you read materials easily with existing light, are you happy with the controls, any glare problems and is there something you feel we should not change. Be a good listener.

2. Interview the electricians that work at the facility and interview the maintenance staff. Remember you do not just want to upgrade the lighting, you want to make the project the best it can be. Ask about the condition of wiring, controls, dimmer compatibility, repair history, light fixtures, sockets, voltage, circuits and supports.

3. Is the project a straightforward retrofit and replacement of existing lights or it is a redesign? A redesign means new light fixtures and locations.

4. Determine which replacement light fixtures or lamps can be used. Sample test light sources using a simple plug in method. Many times a lift is required or a balcony can be useful to mock up an installation.
Procedure:

5. Estimate the cost of the project using quotes on parts from suppliers and contractors.

6. Develop a firm budget and make sure the project is funded. The financial analysis of the project includes lamp maintenance cost, lamp cost, installation, light fixture costs, energy cost, energy savings, and utility company rebates.

7. Once a design is proposed, meet with the people who control the space and go over the lighting design in detail. Make sure there will be no surprise. I include these people in the light test to check color, physical appearance, and intensity of lighting.

8. Generate a tight specification and scope of work that will not allow for any alternate lamps or light fixtures to be substituted. Competitively bid the project.

9. Make sure the contractor understands the importance of the project. Most projects require aiming of accent lights and tuning. A contractor that understands the importance of the space will want the final product to be the best it can.

10. When the project is completed, go over the installation and operating instructions with the people that use the space. Add labeling if needed on controls.
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MADONNA DELLA STRADA CHAPEL
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CHAPEL OF THE SACRED HEART
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THE SCRANTON ESTATE
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THE SCRANTON ESTATE
LED Lighting

- 400 spot and flood lamps for indoor use
- 220 outdoor fixtures
- 32 LED cobra heads in alleys
- LEDs in parking lots
- 7 LEDs in vintage lantern fixture, test underway
- Historical & Religious Buildings Upgraded.
- Energy saving T-8, T-5 and electronic ballasts used on over 95% of the campus.
- Over 10,000 CFLs purchased and installed in last 10 yrs.
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Discussion:

It is challenging to specify the correct lamps and light fixtures for sensitive locations considering the hundreds of manufacturers and products that are flooding the market. Locating quality LED lighting that will work, last 10 to 20 years, and be supported by a reputable manufacturer is one of the most difficult parts of these projects. The good news is that they are out there and have provided LED technology for many very successful projects.

Conclusion:

It is possible to use LED technology in Churches and Historical buildings and achieve similar or even improved lighting conditions. LED lighting is an opportunity to save energy, reduce maintenance cost, and improve lighting levels and quality.
CELEBRATE EARTH DAY
APRIL 22ND
CARING for
CREATION!

THE UNIVERSITY OF SCRANTON
OFFICE OF SUSTAINABILITY
May 29th submitted a grant application for a project to add Marywood University to the program and also fund signage and Sustainable, Historical, and Scranton ½ Marathon bike route generation.
End of the Year Drive

END OF YEAR DRIVE

FRIDAY, MAY 8 - WEDNESDAY, MAY 27

HOSTED BY: CENTER FOR SERVICE AND SOCIAL JUSTICE

The University of Scranton’s annual End of the Year Drive collects all the items that students would normally discard at the end of the academic year. A team of more than 20 underclassman undertake the effort to collect, sort and distribute the donations, volunteering to stay on campus after final exams. Donations are given to area agencies in need such as Friends of the Poor, United Neighborhood Centers, Community Invention Center, Leahy Family Center, Headstart, and Safety Net. Boxes will be placed in all residence halls, in addition to the parking garage stairwells and several academic buildings.
A SpaceX Falcon 9 rocket, leased for the space station, lights up the sky during lift off at 1:52 a.m. Sunday as seen from Walter Marine Credit in Phoenix.

CHANGE IS IN THE AIR

By Maria Panagia
Los Angeles Times

NEW YORK — The words of peaceful demonstrators, including luminaries such as U.S. Sen. Bernie Sanders and former Vice President Al Gore, filled the air as hundreds of thousands of people gathered on Sixth Avenue in Manhattan on Sunday for the People’s Climate March.

The march, which was one of the largest demonstrations in history, took place around the world, including in London and New Delhi, according to organizers.

The march was organized by the People’s Climate Movement, a coalition of environmental groups and activists. The event was held to call attention to the urgent need for action on climate change.

Support grows

Polls show growing support for climate action as the threat of global warming becomes more pressing.

In the U.S., there is a growing consensus that climate change is a real and urgent problem. According to a new survey by the Yale Climate Communication, about 60% of Americans now believe that climate change is happening.

The survey also found that support for action on climate change is growing. About 60% of respondents said they would support a federal carbon tax, while 70% said they would support investments in renewable energy.

Demonstrators make their way down Sixth Avenue in New York during the People’s Climate March on Sunday, two days before the U.N. Climate Summit.

I’m marching for BEES

By David Karp

The Environmental Defense Fund

Earth is a planet with a diverse array of life forms, including insects, birds, and mammals. It is critical that we protect these species to ensure the health of our planet.

The Environmental Defense Fund, a leading advocacy organization, is working to protect bees, which are essential for the production of food. According to the EDF, bees pollinate about one out of every three crops in the U.S., including fruits, vegetables, and almonds.

Without bees, many crops would not be able to grow, and our food supply would be at risk. The EDF is working to protect bees by promoting habitat restoration and reducing the use of pesticides.
Kayak trip teaches students to appreciate nature
Sustainability at Scranton. CARING FOR CREATION!

- Questions.
- Suggestions.
- Comments.

THANK YOU!
Mark Murphy, Sustainability Director