

Construction Career *Expo*

The Third Annual Dayton and Miami Valley

Construction Career Expo was held Tuesday, October 7 at the Montgomery County Fairgrounds. Sponsored by the Ironworking Contractors Allied Partnership (I.C.A.P.), the

event provided a unique and interactive learning experience about the Miami Valley Construction Trades. The construction industry is one of the nation's largest employers, with over 6 million workers.

This year's program was divided into two forums, for students and the general public. Over 300 High School students and their instructors were bussed to the Expo from 10am to 2pm. Participating schools included: Belmont

High, Dayton Patterson Career Center, Eaton High, Fairmont



Ironworkers Local 290 Business Manager Bill Woodward (center) and Apprentice Coordinator Rick Cornett (right) greet an interested high school student.

High, Greenville High, Stebbins, Upper Valley JVS, Miami East, Sidney High, Dayton Job Corp Carpenters, Dayton Job Corp Plasterers, Dayton Job Corp Facility Maintenance and Dayton Christian Schools. They received a first hand look at careers in the building trades.

Exhibitors included various construction trades: Bricklayers, Roofers, Carpenters, Cement Masons, Electricians, Ironworkers, Millwrights, Plumbers & Pipefitters, Sheet Metal Workers, Operating Engineers, Teamsters, Sprinklerfitters, and more. Students participated in hands-on projects, such as:

- Brick laying

- Plaster molding
- Welding

• Operation of a backhoe with a computerized simulator.

The International Brotherhood of Electrical Workers (IBEW) Local 82 and the Dayton JATC (Apprenticeship Program) teamed up to showcase both Commercial and Residential wiring samples. Students also had

an opportunity to bend conduit to use as a putter to try their luck on a putting green. Those with a "hole-in-one" were given a free IBEW T-shirt. Needless to say, there was always a crowd in their exhibit area.

Students received sack lunches and an opportunity to win door prizes including gas cards, T-shirts, Starbuck certificates, tools, and a digital camera. The Grand Prize was a Wii entertainment system.

The Expo was open to the general public from 3-7pm and approximately 200 visitors attended, including Mayor McClin.



Anyone for a hole in one?



Mayor McClin tries her hand at brick laying.



Sheet Metal Workers Local 24 showed students how to weld.



Nate Campbell from Stebbins High School won the grand prize Wii.



IBEW Local 82 Training Director Dick Brooks and Membership Recruitment Coordinator Mike Evans showcase the electrical trade.

Going Green

The United States imports 70 percent of its oil from foreign nations, and we spend \$700 billion annually. The time has come to invest in power generation from domestic renewable resources, such as wind, solar, geothermal, wave energy, and using our abundant supplies of natural gas. On a smaller scale, there are things we can change in our daily lives to reduce energy waste and save money.

Here's what some of the experts recommend.

Using Wind Power

Currently, 22 percent of U.S. electricity is generated by power plants using natural gas as a source of fuel, and of the \$700 billion worth of foreign oil the country imports every year, 70 percent goes to fulfilling transportation needs. Renewable energy (wind, solar, biomass, geothermal) represents only 2 percent of U.S. energy sources today. According to a study released in May 2008 by the Department of Energy, there is conclusive evidence that the United States can generate at least 20 percent of our electricity supply from wind power from the nation's wind corridor, which is a vast stretch of territory between West Texas and the Canadian

border. The wind power could replace some of the Midwest's natural gas power plants, and that resource could be redirected to fulfill other needs, like transportation fuel, replacing more than one-third of imported oil and saving more than \$230 billion a year.



Breakthrough for harnessing light winds?

Axial Vector Energy Corporation has developed the Axial flux generator, or AFG. Its compact size makes it ideal for generators in windmills. AFGs require zero torque at startup, unlike traditional windmill electric generators. Traditionally, as the rotor within an electric generator is turned by the blowing wind moving the turbine blades it passes through a magnetic field where there's a magnetic resistance. The AFG has no magnetic resistance. This simple advantage opens many doors for the windmill producers as it makes areas with low wind velocity, previously thought uneconomical, now capable of being used to product energy.

New Windows for Solar Energy

The Massachusetts Institute of Technology (MIT) recently reported a couple of developments that may help solar power enter the

mainstream market. In one project, MIT reported new photovoltaic cells could be placed on windows without inhibiting views or light passage. The work involves the creation of a "solar concentrator." In another project, MIT researchers have found a new way to store solar energy for when the sun isn't available.

The first project showcased using windows as a solar collector. Light is collected over a large area (such as a window) and gathered or concentrated at the edges. The focused light increases the

electrical power obtained from each solar cell by a factor of more than 40! Because the system is simple to manufacture, implementation could be as soon as three years away, and could even be added onto existing solar-panel systems to increase efficiency.

In another MIT development, researchers have overcome a major barrier to large-scale solar power: storing energy for use when the sun doesn't shine. Requiring nothing but abundant, non-toxic natural materials, this discovery could reinforce solar power's entrance into the market.

Inspired by the photosynthesis performed by plants, researchers have developed a process that will allow the sun's energy to be used to split water into hydrogen and oxygen gases. Later, the oxygen and hydrogen may be recombined inside a fuel cell, creating electricity for use anytime. The new catalyst works at room temperature, in neutral pH water, and it's easy to set up.

Within 10 years, homeowners would be able to power their homes in daylight through photovoltaic cells, while using excess solar energy to power their own household fuel cell. Electricity by wire could become a thing of the past.

"Snakes" and wave energy

A device consisting of a giant rubber tube may hold the key to producing affordable electricity from the energy in sea waves. Invented in the United Kingdom, the "Anaconda" is a totally innovative wave energy concept. Its ultra-simple design means it would be cheap to manufacture and maintain, enabling it to produce clean electricity at lower costs than other types of wave energy converters.

Named after the snake because of its long, thin shape, the Anaconda is closed at both ends and filled completely with water. It is designed to be anchored just below the sea's surface, with one end facing the oncoming waves. A wave hitting the end squeezes it and causes a "bulge wave" – a wave of pressure produced when fluid oscillates forward and backward inside a tube – to form inside the tube. The bulge wave then turns a turbine fitted at the far end of the device, and the power produced is fed to shore through a cable.

Each full-scale Anaconda device would be 200 meters long and 7 meters in diameter. Initial assessments indicate the Anaconda would be rated at a power output of 1 megawatt, roughly the electricity consumption of 2,000 houses.

CONNECTIONS

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Your comments, suggestions and questions are welcome! Contact the Western Ohio Chapter - NECA.

e-mail: wocneca@choiceonemail.com
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What can you do *to go Green?*

There are several Websites that can help us reduce our carbon footprints by making some fairly simple changes in our daily routines.

GreenEnergyChoice.com is dedicated to helping consumers live green by providing renewable energy information and the ability to shop and order eco-friendly green energy plans. Green-energy-news.com contains a wealth of information regarding the latest research. And Greenlivingtips.com contains suggestions on how to go green by categories: buildings, business, cleaning, clothing, energy, food, garden, home, pets, repairs and water.



Here are some suggestions:

- Replace outdated incandescent light bulbs with energy-efficient compact fluorescent bulbs that use up to 75 percent less energy and are guaranteed to last longer. Changing one bulb in every American home would save more than \$600 million in annual energy costs. And if

that's not enough to convince you, then how about the fact that CFL's prevent greenhouse gases equivalent to the emissions of more than 800,000 cars!

- Reduce the amount of water used in you toilet tank for

flushing. One full standard toilet flush uses as much water as the average person in the developing world uses in a day, for everything.

- Shut off electronics at the wall when not in use to avoid phantom power load consumption.
- Install or pre-set air condition thermostats to conserve energy and properly insulate and weatherize your home.
- Use rechargeable batteries.
- Black-out shades or curtains provide natural relief from the sun, and using ceiling fans to

circulate air can effectively replace air conditioning on cooler days.

- How about installing a solar water heater? Heating water accounts for more than 20% of residential energy used in the U.S. Hawaii now requires all new homes to install solar hot water systems and in Israel, 90% of homes have solar water heaters installed.

Green your computer use

- If you use a screen saver, use a blank screen. Animated screen savers consume electricity unnecessarily.
- For your next computer, consider a notebook instead of a desktop. These use under 50% the electricity of a desktop machine.
- Before purchasing a new computer, consider upgrading the hardware in your current machine.

NECA 2008 *Chicago*

The 2008 NECA Convention took place October 4 -7 in Chicago. This year the show focused on the green technologies of the future and the profitable opportunities that exist for electrical contractors. The economists at McGraw-Hill Construction say the market for environmentally friendly buildings will account for between \$12 billion and \$20 billion this year alone. That's up to 10 percent of the total construction market, and the figure is expected to double within five years.

As customers become more aware of alternatives to conventional power generation, such as solar, wind, and renewable energy sources, they want these

energy-saving options for their buildings. The installation and use of these alternative methods of power generation take specific skills and



awareness of a wide array of new products. Gaining this knowledge is essential to remain competitive in these rapidly expanding markets. That's why NECA 2008 Chicago brought together vendors and educators to provide the education and

resources necessary for contractors to incorporate energy alternatives in future projects.

The "Green Alley" section of the show floor featured the most significant gathering of alternative energy technologies specifically for electrical contractors showcasing manufacturers of the latest energy-efficient products. A variety of special technical workshops focused on the latest green technologies,

such as:

- Greenbacks from the Green Movement: Profit opportunities for Electrical Contractors
- Small Wind Systems
- Benefits and Application of Electric Submeters in the "Green Facility" Environment

- Fuel Cells: Real World Use. NECA teamed up with the U.S. Green Building Council to offer a pre-convention workshop, "LEED for New Construction Technical Review." This full-day program was designed for those who had a basic knowledge of LEED and wanted to delve deeper into the technical requirements of the rating, the building certification process, and other implementation strategies. Other workshops included: Business Development Opportunities in the Solar PV Market; Lighting Controls: Go Green and Save Green, and Energy Solutions for Commercial and Industrial Lighting Design.

Sportscaster Bob Costas spoke at the closing General Session, focusing on the importance of teamwork and fair play, strategic thinking, the love of the game, and winning!



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Annual NECA / IBEW / LMCC Golf Outing at Greene Country Club



Winners (from left to right) Jerome Welling, Mike Webb, Jim Fortkamp and Tom Cope. Congratulations!



Closest to the Pin, Dave Lyons.

The Western Ohio Chapter - National Electrical Contractors Association Directory:

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