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SUSTAINABILITY TIMES

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Seasons Greetings from Zero Waste Operations -- Research & Consulting



The staff at **ZWORC** wish to take a moment to wish you all the best in this holiday season, whether you celebrate Kwanza, Hanukkah, Ramadan, Christmas, Winter Solstice, or all of the above. One thing that all religions and all nature celebrations have in common is an appreciation for the value and variety of the Earth's bounty. We at **ZWORC** are dedicated to preserving the Earth by using less of Earth's resources while contributing to the advancement of the living standard of all humans. We salute you in your efforts to be both environmentally and fiscally responsible in both your professional and personal lives. Thanks!!

In the midst of your celebrations this year, please take a moment to reflect on the many ways nature enhances your life and the lives of your loved ones. You'll find a renewed spirit when you pause and feel gratitude for Mother Earth's goodness.

As you shop, cook, travel, and convene with friends and family, we hope you will look for a way to use fewer resources and generate less waste. Let's all try to learn something new about sustainable living as we celebrate.

Happy Holidays from your friends at **ZWORC**: *Paul, Gary, Tim, Brook, and Jay*

Check out many tips for greening your holidays by visiting www.ecocycle.org.

Founder's Corner



The Complexity of Sustainability

By Gary Bergmiller

It's easy to get caught up in the feeling that we should not compromise on the environment. It's easy to feel that we humans must make whatever sacrifices are necessary to protect our fragile environment. But that is easier to say than to do.

Consider the story of Pennsylvania's Hatsfield's Ferry Power Plant, owned by Allegheny Energy. This plant poured nasty pollutants into the southwestern Pennsylvania air for many years. The plant's neighbors complained of a film that covered their cars, unburned pebbles of coal in their yards, and elevated levels of disease. Eventually five states joined together to sue Allegheny to force the company to clean up the exhaust air from the plant. Finally a scrubber system was added to the smoke stacks in the summer of 2009. Chemicals and water are now sprayed through the exhaust air removing 150,000 tons of pollutants annually. What a success!

Now the plant is pouring thousands of gallons of polluted water into the Monongahela River, which is the source of drinking water for 350,000 people and joins the Allegheny River in Pittsburgh to form the Ohio River. By cleaning up Hatsfield's Ferry's air pollution, Allegheny is now responsible for putting arsenic, barium, and lead, among other things, into the state's watershed. Does this mean the company is irresponsible? Perhaps but perhaps not. More than that, this story points out the interrelationships that exist among pollutants and how carefully waste reducing techniques must be implemented.

To quote Kermit the Frog, "It's not easy being green!" Allegheny Energy undoubtedly agrees.

Make Your Restaurant Greener

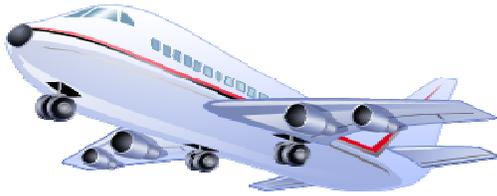
An engineer named James Peret has invented an electricity generator that runs on used cooking oils. The Vegawatt processes about 80 gallons of oil per week and produces about 5 kilowatts per hour. For a large restaurant, this would be approximately all the oil used and may generate 10-25% of the facility's power requirements. The unit is about the size of a refrigerator and is installed outside the building similar to many air conditioning units. It is sold by Owl Power Company of Boylston, MA. To learn more, visit www.vegawatt.com.

Did You Know ... ?

New Zealand obtains 70% of its electricity from renewable energy sources. These are largely hydroelectric and geothermal generating stations. Wind and solar energy are a growing proportion of electricity production as well.

Waste Reduction Technique of the Month

Travel Reduction



One technique for lowering the company's carbon footprint while simultaneously saving valuable employee time is to reduce the necessity for employees to travel outside their normal assigned duty station. Reducing the need to move materials and products or the need for employees to go outside the facility can result in significant reductions in energy required, not to mention reductions in time required and in annual costs. Improved work flow patterns in the facility may mean that less material handling is required.

Logistics systems improvements may result in more efficient distribution routing or the choice of more efficient modes of transportation (perhaps shipping by rail or boat rather than truck or plane). In certain situations bicycles may be substituted for automobiles to allow employees to travel short distances. Encouraging employees to use mass transit systems whenever possible may significantly reduce the need for them to use automobiles. Using modern teleconferencing systems such as skype, elluminate, horizon live, and windows live may reduce the need for employees to travel to meetings and conferences in distant locations.

Most companies can reduce their costs as well as their carbon footprints by taking a serious look at reducing all types of travel within the company. After all, travel means airfares, taxis, rental cars, hotel rooms, food expenses, and paying salaries for employees to sit in airport terminals. Travel expenses can be a significant drag on profitability and sustainability. Reduce travel and save money and the environment!

Book Review

The Green Workplace: Sustainable Strategies that Benefit Employees, the Environment, and the Bottom Line

by Leigh Stringer

Ms. Stringer is a vice president at HOK, an architectural firm that concentrates on sustainable designs. In *The Green Workplace* (Palgrave Macmillan, 2009), she presents a strong case for why industry must change, supported by statistics and a global picture of unsustainability. She explains how to leverage technology and encourage employees to adopt green behavior in order to green the company's operations. She discusses "transformative design" and how such designs build greenness into operations, making a workplace both productive and environmentally sustainable. She provides tips on how to manage a cultural change of this magnitude and how to integrate environmental sustainability into everyday business actions. The book concludes with predictions about the green workplace of the future and how we can move forward sustainably. This is a must read for all managers, owners, and executives who are really serious about transforming a traditional company into a modern sustainable enterprise.

America's Greatness

By Paul McCright

Ask any historian what allowed the United States to become a great nation and you will likely get an answer that goes something like this: "Three major factors gave the young U.S. a great advantage over all other countries. First, the land has abundant natural resources such as water, forests, and mineral deposits of all sorts. Second, the people of the country were immigrants from many geographic, political, and cultural locations. They brought with them many different ways of doing things, many different strengths, and many different ideas upon which to build a society. Third, the U.S. is one of the largest societies under one government. That allows free and open trade across many people and many areas."

To this, I would like to add that the political experiment of democracy based on individual freedom and liberty has allowed remarkable experimentation in government and in business. The checks and balances of three branches of government and the rule of law made by elected citizens resulted in wise government, strong policies, and a strong capitalist market.

Today, 535 members of Congress pass the laws that affect all aspects of our lives as individuals and as business people and as citizens of the world. It is a modern tragedy that many of these 535 citizens are beholden to rich companies whose fortunes appear to be connected to the status quo in areas such as pharmaceuticals, insurance, and energy. This unholy relationship with narrow special interests often seems to take precedence over human rights, national security, environmental sustainability, justice, and just plain ethics and morality.

We at **ZWORC** ask our duly elected leaders to consider what is right rather than what will elicit the most contributions from the powerful few when called upon to write, introduce, or vote on legislation. With regards to the environment, we ask our leaders to create and pass legislation that will provide our country and, indeed, our world with a future that will not ruin our environment with pollution and climatic catastrophes. We ask them to consider a gentle, predictable, and sustainable shift from the (literally) dead-end fossil-fuel-based economy towards a future built on a sustainable and non-polluting mix of renewable energy sources and sustainable business and government practices of all types.

Please let us develop a future of hope and happiness rather than one of slow destruction.

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