

SUSTAINABILITY TIMES

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Need New Products in a New Year?

Why Not Develop Energy-Efficient Products?

Companies making products that consume energy should consider developing products that are more energy efficient than the ones currently available to the consumer. Companies that market lighting, heating/cooling equipment, computers, televisions, other electronic products, home appliances, automobiles, trucks, heavy industrial equipment, planes, trains, and boats should make the development of more efficient products a significant goal of their product development effort. Many already have and should be congratulated. For those that have not concentrated yet on energy-efficient products, it is not too late.

Luckily, governments are providing assistance with this goal. Many countries now have energy efficiency requirements for all types of products. In the U.S., legislation in 2009 called for improved fleet economy in the automotive products sold in the U.S. Supporting the development of a broad range of energy efficient products is the Energy Star Program, jointly administered by the U.S. Environmental Protection Agency and the U.S. Department of Energy. Energy Star helps individuals and companies protect the environment by using energy efficient products and practices. According to the Program, Americans "saved enough energy in 2008 alone to avoid greenhouse gas emissions equivalent to those from 29 million cars — all while saving \$19 billion on their utility bills."*



The symbol of Energy Star products

The Energy Star Program supports companies as they develop new products by offering "a proven energy management strategy that helps in measuring current energy performance, setting goals, tracking savings, and rewarding improvements."*

Energy-efficient products are making great inroads and are in development in a wide variety of markets including automobiles (hybrids by Toyota, Honda, and Ford, for example), water heaters (GE's hybrid), airframes (moveable winglets by both Airbus and Boeing), manufactured housing (Clayton Homes' i-house), fuel pumps (high-efficiency pump by Elektra), and lighting (CFL, LED, and OLED lights by GE, Phillips, and Sylvania).

Bringing a product to market with higher efficiency than competitors' products can provide a substantial edge in the marketplace. Of course producing this product in a Zero Waste Organization is like hitting a home run as it will command higher price and have more substantial sales while saving significant costs of production and reducing negative (and costly!) impacts on the environment. The product also has a very significant secondary benefit: assisting every customer to reduce his/her carbon footprint.

*http://www.energystar.gov/index.cfm?c=about.ab_index, accessed 09/09/09.

Founder's Corner

Welcome to the 'Teens

By Paul McCright



I am tempted to be very grateful for the end of 2009, the year that seemed to be nothing but bad news for everyone. However, there are some good things about the year just ended, too. We had the world-wide climate conference in Copenhagen. We had increased fuel standards in the U.S. We had greatly enhanced environmental research and new green initiatives all around the country.

Most progressive people would probably agree that the stimulus programs of the Obama Administration have moved green causes forward significantly and will do more as the years roll forward.

So, what about 2010, the first year of the 'Teens? Economies around the world seem to be poised to improve a lot in the next few years. The shift from fossil fuel-based economies to renewable energy-based economies seems to be picking up speed. Developing nations such as China, India, and Brazil are bigger players on the global stage. As 2008 and 2009 can be characterized as years of loss, it is my belief that 2010 and the few years that will follow will be characterized as years of gain as our nations regroup from the economic devastation that took down the likes of Lehman Brothers, Pontiac, Circuit City, Bernie Maddox, and Mervyn's. Those companies that survived the economic downturn will emerge leaner, greener, and meaner as they compete with wisdom and strength in the markets of the future.

We at ZWORC support the careful, thoughtful development of better products, systems, and organizations as we move forward. The 'Teens will start off with many of us struggling and with our climate hurting, but we think the decade as a whole will take us to a better place of sustainable life. By 2020, we will see a dramatic change in our national economies and our global environment. It will undoubtedly be an exciting decade!

HAPPY NEW YEAR from ZWORC!

Did You Know ... ?

The International Standards Organization is currently developing standards for management systems for energy use in organizations. This new set of standards, dubbed ISO 50000 will join ISO 9000 quality management systems and ISO 14000 environmental management systems in helping companies better manage their organizations so they can achieve high quality production while minimizing their use of non-renewable energy and their impacts on the environment. Taken together, these three ISO standards can be great guidelines for organizations adopting Zero Waste programs.

Waste Reduction Technique of the Month

Redesign Products for Manufacturing Efficiency



The engineering design of a product is much like the architectural design of a facility. Just as the architect makes choices that have long-term impact on the environmental and economic effects of a facility, so too does the engineer make choices that affect the production processes that may be used in making the product. Traditional new product development processes were broken into silos, with design engineers completing the product design before handing it off to the manufacturing engineers who then had to determine how the product could best be made. A more progressive approach has been popularized by the Lean movement and calls for a joint effort between design engineers and manufacturing engineers with the goal of developing new products that can be more efficiently manufactured.

Injecting a green component into the joint design effort allows a company to develop products that can be manufactured with a minimum of energy, using the minimum non-renewable resources and materials, and creating the minimum waste products. Such products contribute to sustainable production and both economic and environmental sustainability of the company. The truly sustainable company ensures the environmental component is fully integrated into the design process.

One good example of this new product design is from the Dutch company DSM*, which has developed a version of the industrial chemical succinic acid. Succinic acid (also called Amber acid) is used as a flavoring in foods and beverages and has many other uses, including serving as an intermediary in dyes and perfumes, being an ingredient in numerous medicines, and being a component in metal treatments. DSM's new product is made from fermented plant starch rather than from petrochemicals as this acid has been made historically. This organic succinic acid is expected to be much simpler and cheaper to manufacture and it does not rely on petroleum for its raw materials.

Perhaps your company could realize similar results from redesigning one or more of its products.

* Jack, Andrew, and Wiggins, Jenny, "DSM to Launch Eco-Friendly Chemical," *Financial Times*, 7/15/09.

U.S. Petroleum Demand May Have Peaked in 2007

Demand for all types of petroleum products (gasoline, diesel, jet fuel, and others) was down in 2008 from the previous record high of 20.6 million barrels per day set in 2007. Indicators are that demand dropped further in 2009. The majority of this drop is attributed to the effects of the Great Recession. During 2009, U.S. fuel standards were made higher, utilities turned more to wind and solar generation, and countless investments were made in improving building performance to reduce heating and cooling needs. Many believe these systemic changes in consumption may offset increased demand when the economy improves and cause 2007 to be the all-time peak. Global demand is affected by huge growth in other countries such as China and is not thought to have peaked yet.

http://www.api.org/Newsroom/us_oil_demand_dec08.cfm

Beyond Copenhagen

By Gary Bergmiller

There seems to be a tendency in the American and global press to paint the Copenhagen Climate Change Summit as a failure and in some ways it certainly was. However, in some ways it was also a great success, even while a little disappointing.

Representatives of 193 countries met in tiny Denmark for much of the month of December to try to haggle out an agreement that meets the internal political realities in all 193 nations, addresses many issues of global equity, and sets the stage for immediate and long-term reduction of human actions that contribute to increased global warming and the looming planet-wide catastrophes that may result from this warming. In anyone's view, that's a very formidable agenda. Therefore, it should come as no surprise to us that the well-intended representatives failed to achieve all they set out to do.

In our pragmatic minds, there were many smaller, but very significant successes from the summit.

First, just getting 193 countries to talk about our shared impending climate disaster is pretty impressive when we can't seem to get 100 senators to have a real conversation about the issue. Raising the issues, sharing thoughts, and even considering proposals seems like a significant improvement over global business as usual.

Second, wealthier industrial nations such as the U.S., U.K., and Japan accepted some level of responsibility for creating the climate crisis through 200 years of burning fossil fuels to energize their economies. Without pointing fingers of blame, it is good to see that we are recognizing our significant role in making the world's atmosphere what it is today. Recognizing the responsibility these nations have to help those nations currently developing is a critical step in solving this global issue.

Third, the commitments made by nations such as China and the U.S. along with the E.U. to take actions to reduce reliance on non-renewable energy resources and invest in developing green energy sources and green technology is a significant change in our collective attitudes which will undoubtedly have long-term positive benefits.

While there remains much to be done and little time to waste doing it, we should recognize these very important steps in the right direction. Thanks, Copenhagen reps! If our global governments will now fulfill their commitments and resolve to go beyond this summit to other meetings, other commitments, and other actions, we can hope to avoid the worst consequences of our past actions.

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