

Green: What's it really mean?



Thomas L. Smith, P.E.,
BCEE, DWRE, LEED AP

“Green” is a term we often hear, but there are differing views regarding this subject matter. “Going green” does not mean you are a “green fanatic.”

Occasionally you may even hear references to the various “shades of green.” Slightly environmental, conservation-minded persons would be considered light green, while strict conservationists are dark green. The world’s natural resources are precious and everyone should embrace the basic principle that conservation of our natural resources adds to the overall quality of life.

Society embraces the concept of solving problems through identifying technical approaches, processes and solutions that are environmentally responsible and resource efficient and promote good stewardship of the world’s natural resources. Overall, our culture’s environmental sympathies are trending green.

But instead of greenwashing everything, we must learn to become better stewards. There also is a cost associated with the execution of green measures, so it is important that green industry professionals implement solutions that provide acceptable return on investment.

The free enterprise system will reward innovators who market viable green approaches that focus on finding solutions to problems within the marketplace. Going green does not always have to be more expensive than the similar traditional or conventional approach. Often green industry information that is publicized can be highly technical and complex; therefore, these professionals must be able to communicate the information and data in a manner that can be universally understood.

Putting ‘green’ to work

Commercial and industrial cooling towers can contribute significantly to high municipal per capita water consumption. Water conservation measures are needed to help sustain freshwater resources and reduce the high volumes of makeup water utilized by cooling towers within municipality jurisdictions. Limiting the cycles of concentration has been one of the principal means of eliminating excessive concentration of contaminants and impurities within circulating cooling water systems. A method known as blow-down is needed to

remove a portion of the concentrated circulating water, which is then replaced with fresh makeup water. This lowers the concentration of contaminants and impurities in the circulating cooling water system. However, maintaining low cycles of concentration often is necessary due to the high concentration of specific impurities and/or contaminants. Low cycles of concentration lead to higher-than-desired makeup water usage, increased chemical treatment consumption and larger blow-down volumes discharged as wastewater.

Green technology providers are working on the commercialization of innovative cooling water treatments that can economically and efficiently remove select impurities and contaminants that limit cycles of concentration within circulating cooling water systems. This will enable operation of circulating cooling systems at higher cycles of concentration, thus reducing makeup water volume, consumption of chemical treatment and blow-down as wastewater in municipalities across the U.S. This is an example of a green and sustainable application that can help reduce per capita water consumption in municipalities across our nation.

Another example of a true “going-green” application: To a practical extent, the oil and gas industries should plan to utilize existing and/or emerging technology to treat hydraulic fracture flow back water and produced water. The technology could be applied on site to treat hydraulic fracture flow back water and produced water from oil and gas wells. It can be reused for oil and gas activities and other beneficial applications to help conserve precious freshwater supplies and reduce impact to the environment by providing additional uses for flow back and produced water.

Green solutions can indeed be viable and resource efficient. This movement will continue by designing environmentally responsible programs for a better future. Focusing on areas of consensus will improve responsible use of the world’s natural resources. ■

Thomas L. Smith, P.E., BCEE, DWRE, LEED AP, is chief technical officer of Green and Sustainable Services LLC. Smith can be reached at tomsmith@embarqmail.com or 940.597.3723.

The solutions
behind the slogans