



USGBC Arizona at Whole Foods

Attending a chapter booth in Whole Foods this past August are Chapter Vice Chair Nora Calato and two students from Arizona State University, Markus Roznowski (left) and Charudatta Joshi (center). Markus Roznowski is currently in the Masters program for Urban and Environmental Planning and Charudatta is completing his M.S. in Building Science. Nora will be Chairing the USGBC Arizona Chapter in 2008.

[Letter from our Editor](#)

Newsletter archives:
[July 2007](#)

The Arizona Chapter goes through major changes

2007 has been an active, and productive, year for your Arizona Chapter.

Chapter Chairman Mike Quinn (Arrington Watkins), with his dedicated board and committee chairs, rolled up their sleeves and went to work to further the mission of the Arizona Chapter.

A recent board survey of board member and committee chair *volunteer* time expended in 2007 on behalf of the chapter indicates that no less than 5000 hours of leadership and experience created major changes and advances in sustainability education, awareness, and impact in Arizona. This number does not take into account our committee member time, and is a conservative estimate of board time. At an hourly wage of \$30, a value of \$150,000 was donated to this chapter by your board. The true value of their knowledge, experience, and influence greatly exceeds this number.

In addition, 50 Chapter Partners and Friends contributed just under \$50,000 to support the chapter operating expenses, membership services, and community outreach efforts. [...more on p.2](#)

[Back to the top](#)

Waterless Urinals: Research & Myths

When the indoor, flushing, bathroom fixture was introduced in 1820, some Victorians were disgusted at the thought of bringing an unsanitary 'privy' into their homes. Although chamber pots were used, they were taken out, emptied, and cleaned daily.

Since then, flush water closets and urinals have become standard in residential and commercial facilities throughout the developed world. The utilization of flowing water to flush waste away, rinse the fixtures' interior, and trap odors makes it seem self-evident that their design and operation contributes to sanitation and public health. And, for the most part, this is true. [...more on p.2](#)



Figure 1 - Bacterial & viral aerosol created by toilet fixture flushing. (see Footnote 1)

[Back to the top](#)

Many thanks to our advertisers:



**Infinity
Library
Solutions**

Infinity Library Solutions specializes in innovative interior design and space planning, resulting in attractive and functional library environments. At ILS we understand the issues, and are better able to solve the problems, surrounding the design and functionality of library facilities. Infinity Library Solutions will help you integrate green building techniques into the design and construction of your library project, and will guide you in selecting library features (including furniture) that will help you earn points toward achieving LEED certification. For more information please visit www.infinitylibrarysolutions.com

or call 480-961-9462

Site Selection Strategies for Green Building

Why would an owner want to build a green building? There are many easily quantifiable answers to this question like reduced energy and water costs, better indoor air quality and lower overall operating and maintenance costs. These benefits of green buildings have been proven time and time again and are generally accepted as a given. But as I see it, most business owners want any additional competitive advantage that they can get. Some of the competitive advantages that green building can give your firm are improved public perception of your company, better employee retention and increased productivity. But the misconception that green buildings cost more up front still exists, so it may be difficult for some owners to justify a green building program. Since economics drive decisions on green buildings, I wanted to discuss some site strategies that owners should consider in order to keep those dreaded first costs as low as possible.

Owner site considerations when purchasing property

Site selection is always an important decision for a building owner, but strategic site selection can help to gain several LEED points that otherwise may be impossible to achieve. At least four points are available within the LEED system that relate directly to site selection. If you're an owner who is considering a green building, I would suggest that you consider how your site may help you to gain many "built-in" site-related points. For example, [...more on p.2](#)

[Back to the top](#)

SRP Launches Program to Plant Trees

Each morning, as we peruse the Internet and newspapers, we can't help but notice how green our news has become. Stories about global climate change and environmental concerns dominate the headlines. As an electric utility with a history of stewardship, Salt River Project is concerned about the environmental challenges we face today. We're committed to reducing greenhouse gas emissions and preserving the environment for future generations.

SRP customers have expressed interest in reducing greenhouse gas emissions as well as conserving water and energy, and we have developed programs to help them do so. Aside from installing low-flow faucets and CFL light bulbs, customers have told us they want to do more to reduce their carbon footprint. That's one reason we've created the SRP EarthWise Trees for Change program – an innovative way for customers to lower greenhouse gas emissions while participating in reforestation efforts throughout Arizona. [...more on p.2](#)

[Back to the top](#)

Chapter Member Receives Award

Charles Burke received the Western Regional Pollution Prevention Advocate of the Year Award on October 22 at the Western Regional Pollution Prevention Network (WRPPN) Award Ceremony in San Diego California. Staff from both EPA Region 9 (California, Nevada, Hawaii and Arizona) and EPA Region 10 (Oregon, Washington, and Alaska) were present. With Chuck is his valued colleague for promotion of "Green Schools" Gail Bliss from ADEQ's Pollution Prevention Unit. The award reflects outstanding effort expended to promote sustainability and pollution prevention in the Region. It has been over 12 years since an Arizonan received the award for EPA Region 9 from WRPPN.



[Back to the top](#)

Maricopa County Air Quality Department Issues "No Burn Day" Restriction

So you heard on the news that you can't light a fire in the fireplace tonight. But why?



The ambiance, the warmth and the crackle coming from your fireplace are all familiar sights and sounds of the winter season.

The problem is the smoke coming from that fire puts a lot of pollution into our air.

The county's air pollution is monitored by several air quality monitors posted in and around Maricopa County. When conditions are right during the winter months, state forecasters issue what's called a high pollution advisory [HPA] for particulate matter. Once that happens, the director of the Air Quality Department issues a No Burn Day restriction. That means all fireplace, woodstove and open burning are not allowed. Aside from taking a chance on getting a fine for \$100 to \$10,000, it's just not a good idea to add more pollution into the air when you can avoid it. [...more on p.](#)

[Back to the top](#)

Being green saves green

Photo courtesy Scott Price



[Back to the top](#)

Want to submit an article or advertisement for future newsletters? Go to our [Submission Requirements](#) page for more information

The Arizona Chapter goes through major changes

by Nora Calato, USGBC Arizona Chapter Chair for 2008

(Continued from [Page 1](#))

The January 2008 Partnership Campaign is in full swing, and with the growth in demand and outreach that this chapter is experiencing, we need your contributions to continue transforming our built environment.

For \$1 donated, no less than \$3 of volunteer time was funded. Our financial contributors truly are partnering with our board and committee members to leverage each dollar to its maximum impact.

What has the chapter accomplished this year?

This year we worked diligently to restructure the USBGC-AZ Chapter. Effective January 1st, the Chapter will have three fully functioning branches to better serve the regional needs in Arizona. The new Northern, Southern, and Central Arizona Branches will focus on education and building awareness about the LEED rating system for measuring sustainable buildings and building practices. Each Branch will be able to focus on the specific environmental conditions and building needs in their area. The Chapter board will further statewide Advocacy efforts, while the Branch boards will serve a greater population of local builders, developers, architects, contractors, building owners, tenants, and citizens who want a better place to live and work.

Chapter membership has grown phenomenally this year. As we began 2007, our local chapter membership count was hovering around 250. As we end 2007, our membership count exceeds 800.

As we began 2007, the number of LEED accredited professionals in Arizona topped 400. As we end 2007, the number of LEED accredited professionals in Arizona tops 1000.

Other counts we find amazing? Currently, Arizona proudly lists more than 180 LEED registered projects, and 20 LEED Certified projects, including the LEED Platinum ASU Arizona Biodesign Institute.

In addition, 2 major advocacy efforts were launched across the nation by USGBC, with active participation in Arizona. Watch for updates on LEED for Homes, and LEED for Schools in 2008!

Now is the time to get involved!

If you want to get your hands, heart, and mind involved in making a true difference to those that follow you on this earth, join us at the Central Arizona Branch meeting on January 15th, 2008 as we introduce our new committee chairs, share the successes and disappointments of 2007 committee work, and roll up our sleeves to make 2008 an even better year for the Transformation of Arizona's built environment!

Many thanks to our Advertisers:



**Infinity
Library
Solutions**

Waterless Urinals: Research & Myths

©2007 Daniel Rusch-Fischer, CFM, LEED-AP, FM Solutions

(Continued from [Page 1](#))

With the introduction of the waterless urinal, 18 years ago, there have been persistent concerns regarding the 'lack of sanitation' inherent in a fixture that is not "thoroughly washed at each discharge". (see Footnote 2) This article of faith is based on long-held assumptions that are not supported by scientific evidence.

It is commonly assumed that flush-water is essential since it washes/cleans fixture surfaces thus sanitizing surfaces and reducing odors.

Assumption #1: Fixture flush water carries away body waste and its inherent, unsanitary organisms.

This seems patently obvious. However, the facts are, that although flush water carries away the bulk waste, the mechanical action of flushing creates an aerosol containing fecal and/or urinary organisms and distributes them to every surface in a restroom; see Figure 1. In addition, Dr. Charles P. Gerba, University of Arizona, Tucson, found that after an initial flush had eliminated the majority of organisms from the fixture water,

"after repeated flushes, instead of diminishing, there was often an increase in the number of residual organisms detected in the bowl. In the case of both bacteria and viruses, the number of organisms in the bowl reached a plateau below which their number could not be reduced, even after repeated flushing. From this evidence, it appeared that significant numbers of bacteria and viruses were being adsorbed to the toilet porcelain and then eluted during the flushing action". (see Footnote 3)

Restroom fixture flush-water aerosol has been cited in the transmission of SARS (see Footnote 4), salmonellosis (see Footnote 5), and a two-month hospital outbreak of *Serratia marcescens* (see Footnote 6), which was traced to flush urinals.

The University of California (see Footnote 7) found that:

"A water-free urinal differs from a water-flushing urinal in that it does not use water to rinse the porcelain surface of the urinal bowl between each use. The research team sampled and counted organisms from the interior porcelain surfaces of both the ... water-free urinal and an existing 3.0-gpf water-flushing urinal in the same restroom. The collected data indicated that the cell count per area of measure was lower for the ... water-free urinal than for the flush urinal."

Assumption #2: Fixture flush water is necessary to prevent odors.

The 2003 UCLA study⁷ also states:

"Ammonia (Odor) Development: The research team measured ammonia concentrations at three locations at each of the two urinals:

- (a) inside and immediately above the bottom of the urinal (or just above the waterline for the water-flushing urinal),
- (b) six inches in front of the urinal at the level of the bowl lip, and
- (c) at ceiling height at the nearest air return vent in the rest room.

Study results indicated that there was no statistically significant difference between the ... water-free or the water-flushing urinals in the amount of ammonia gas measured inside the urinal bowl or at then bowl lip. No ammonia gas was measured at the return vent for either urinal. Furthermore, none of the sampling data indicated ammonia gas levels that even approached the lower threshold for human detection of 20 parts per-million. Therefore, odors perceptual to humans were absent from the vicinity of both urinals."

It is essential to remember that restroom fixture cleaning is the most important means to controlling odor.

This may have been true in the past, but the authors of the UPC, IAPMO, appear to have abandoned their prior objections to the installation of waterless urinals as evidenced by the proposed changes to the 2009 UPC. They now are proposing that Section 405.2 be revised to read:

~~405.2 Prohibited Urinals. Floor type and wall hung type - Trough urinals and urinals with an invisible seal shall be prohibited. Urinals that have an invisible seal or that have an unventilated space or wall that is not thoroughly washed at each discharge shall be prohibited.~~

They will also add the following standards to the 2009 revision:

Table 14-1

Standard Number	Standard Title	Application	Referenced Sections
IAPMO Z124.9-2004	Plastic Urinal Fixtures	Fixtures	401.1
ASME A112.19.19-2006	Vitreous China Nonwater Urinals	Fixtures	402.3.1

In addition to having their own waterless urinal standard, IAPMO lists/certifies waterless urinals(see Footnote 8) including those made by Caroma, Ecotech Water LLC, Falcon, Kohler, and Zurn.

In light of the current state of knowledge, Authorities-Having-Jurisdiction refusing to permit listed waterless urinals is likely to become a situation of the past.

1 J. Barker, M. V. Jones. 2005. *The potential spread of infection caused by aerosol contamination of surfaces after flushing a domestic toilet.* Journal of Applied Microbiology, 99:339-347.
 2 International Association of Plumbing and Mechanical Officials (IAPMO). 2006. *Uniform Plumbing Code*, Ch. 4:405.2 Prohibited Urinals
 3 Gerba, C. P., C. Wallis, & J.L. Melnick. 1975. *Microbial hazards of household toilets. Droplet production and the fate of residual organisms.* Applied Microbiology 30:229-237.
 4 Ignatius T. C. Yu, et al. 2004, April 24. *Evidence of Airborne Transmission of the Severe Acute Respiratory Syndrome Virus*, New England Journal of Medicine 350:1731-1739
 5 Barker, J. and Bloomfield, S.F. 2000. *Survival of Salmonella in bathrooms and toilets in domestic homes following salmonellosis.* Journal of Applied Microbiology, 89:137-144
 6 Shi, Zhi-You, et al. 1997. *Use of pulsed-field gel electrophoresis to investigate an outbreak of Serratia marcescens.* Journal of Clinical Microbiology 1997 January; 35(1): 325-327.
 7 Dept. of Civil and Environmental Engineering, University of California, LA. 2003. *UCLA Water-free Urinal Study*,
 8 <http://pld.iapmo.org/applicants.asp>, IAPMO Plumbing Research Directory

[Back to the top](#) | [Return to Page 1](#)

Site Selection Strategies for Green Building

by Charlie Popeck, LEED-AP, Green Ideas

(Continued from [Page 1](#))

points are offered towards certification for:

- Choosing a site that is not in a flood plain, within 100 feet of a wetland, within 50 feet of any water body, not inhabited by any threatened or endangered species, prime farmland or a public park. Choose a site that has none of these prohibited criteria and you'll receive one point towards certification.
- Locating your project in a high-density urban setting. The goal is to drive development to more dense areas, in an effort reduce urban sprawl. If your building is located in an area with an average density of 60,000 SF per acre (equivalent to a two-story downtown development) you'll receive an additional point.
- Rehabilitating a contaminated Brownfield site will gain yet another point. This strategy has been used successfully in many of the rust belt states where Brownfield's can be purchased at a relatively low cost near major urban areas. This point is achievable in many other areas also. Of course, rehabilitation costs may be prohibitive, but if the economics work out, a Brownfield site can earn a LEED point.
- Purchasing a site that is within ½ mile of a light rail or subway station, or within ¼ mile of two or more bus lines. This strategy encourages the reduction of automobile use by awarding points for locating your building within walking distance of light rail and subway stations or bus stops. The obvious goal is to encourage development along pre-established mass transit routes which will make it convenient for people to take mass transit to and from work.

As I've said before, making an early commitment to building a high performance green building is the key to delivering the project at a competitive first cost. Many of the site-based decisions outlined above can be made well before the building is even designed. Simple pre-planning decisions will enable your design team to focus on design issues that are congruent with your sustainability goals for the project and will eliminate unnecessary redesigns that are inevitable when the decision to build green is made later in the process. Starting early will also serve to get the entire design and construction team committed to building green at no additional cost by focusing on sustainable solutions from the start.

Charlie Popeck is the President of Green Ideas-your partner in sustainable construction. Green Ideas specializes in helping Design, Construction and Facility Management teams to understand and implement effective sustainable construction strategies (including the LEED system) into their businesses. He can be reached at 602-512-0557 or Charlie@Egreenideas.com.

[Back to the top](#) | [Return to Page 1](#)

Many thanks to our Newsmates:



The 19th Annual Southwest Facilities Expo is the largest and longest running facilities event in the Phoenix area, offering a wide array of products and services for engineering, management, and operations. Facilities Expo also provides significant educational content, custom-tailored to deliver immediate answers to everyday challenges. Visit www.FacilitiesExpo.com or call 800.827.8009 for more information.



Subscribe to GreenMag E-News, the bi-weekly newsletter of Green Magazine, is geared to promote and encourage green and sustainable business practices. The business-to-business focus allows for an in-depth, multidisciplinary look at of the green industry. Features include the latest news and trends in sustainable building and alternative energy, profiles of industry leaders, new technology and product information, online resources, and green events. Sponsoring partner for Green Magazine is the Colorado Chapters of the U.S. Green Building Council. We encourage The Arizona USGBG Chapter to become a partner, to join the GreenMag E-News mailing list by logging on to <http://greenmagonline.com>. Click on "Free Newsletter".

Customers to Help Restore Forests and Take Action on Climate Change

By Lori Singleton, SRP Manager of Environmental Initiatives

(Continued from [Page 1](#))

Trees take in carbon dioxide and give off oxygen. As trees grow, they absorb carbon dioxide from the atmosphere and store it in living plant tissue. Reforestation of once-forested, but currently unproductive areas such as forests destroyed by fire, is a proven way to help reduce the amount of carbon dioxide in the air.

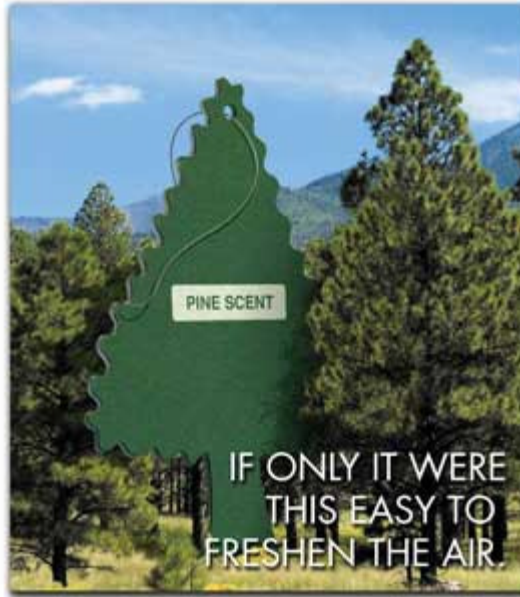
Customers who join the Trees for Change program will help fund the planting of Ponderosa pine seedlings in Arizona by contributing as little as \$3 a month above their regular monthly electric bill. SRP will match each customer dollar up to \$80,000 per year. A \$3 per month premium paid by a customer for one year, matched by SRP, will plant 72 trees. It's estimated that at maturity, these 72 trees will have sequestered enough carbon dioxide to offset the annual electricity usage of 26 average U.S. households.

The first planting of the seedlings will be on a 100-acre site south of Highway 260 and Bison Ranch on Forest Service land. The land is part of the Apache-Sitgreaves National Forest, near Overgaard, an area destroyed in the Rodeo-Chedeski fires of 2002 that burned across 7.2 million acres. SRP is working with the U.S. Forest Service, which will be the long-term land manager of the SRP EarthWise Trees for Change program.

Not only does this program provide a way for SRP customers to partner with us in beautifying areas devastated by fires, but it is also an easy, personal way they can take action on climate change. It's a lot of change, for a small monthly investment.

For more information go to www.srpnet.com/trees or call (6... .

Want to submit an article or advertisement for future newsletters? How about becoming one of our Newsmates? Go to our [Submission Requirements](#) page to find out how!



[Back to the top](#) | [Return to Page 1](#)

Maricopa County Air Quality Department Issues "No Burn Day" Restriction

by Holly Ward, Community and Media Relations Manager, Maricopa County Air Quality Department

(Continued from [Page 1](#))

What's causing the pollution?

Most of the recent high pollution advisories have been called for PM-10 or particulate matter measuring 10 microns or less in size. State and county agencies measure PM-10 and PM-2.5 which are extremely small solid particles and liquid droplets found circulating in the air. Those small particles can travel deep inside your lungs and cause serious respiratory problems.

What to do?

Here are some simple ways you can do your part to reduce particulate pollution:

- Drive less, particularly on pollution advisory days. Reduce the number of trips you take in your car.
- Drive slowly on unpaved roads (best under 15 miles-per-hour).
- Don't use leaf blowers and other equipment that raise a lot of dust. Use a rake or broom instead.
- Avoid using gas-powered lawn and garden equipment.
- Maintain your landscape. Cover loose dirt with vegetation or gravel.
- Reduce fireplace and woodstove use, and don't use your wood-burning fireplace, wood stove or outdoor fire pits on no-burn days.
- Consider using gas instead of wood. If you use a wood-burning stove, or fireplace insert, make sure it meets EPA design specifications and burn only dry, seasoned wood.
- Don't burn leaves, trash or other materials.
- Report serious offenders to the Maricopa County Air Quality Department at 602-372-2703 by phone or on-line at www.maricopa.gov/aq.



[Back to the top](#) | [Return to Page 1](#)