

# JOURNAL <sup>OF</sup> Environmental Management

Practical and Current information for Environmental, Health and Safety Professionals

## ARIZONA

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DISAPPROVE  
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*See News Briefs, PG 10*



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JOE HOLMES: A NETWORKING  
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ADEQ Director  
Ben Grumbles'

## TOP 10 WISH LIST

# "R and D"

by ADEQ Director Ben Grumbles

**W**ith all the political campaigning these days, here's a timely reminder that "R and D" refers not just to parties but to Research and Development, the key to sustaining environmental and economic progress in Arizona.

### Sound Science and Silver Bullets

In July, I established a new position at ADEQ, Science Advisor to the Director, and appointed a seasoned agency veteran, Ira Domskey. He's charged with keeping us up to speed in a fast-paced world, sifting through junk and voodoo and identifying game-changers and silver bullets (if there are any).

Like any healthy organization, ADEQ must continue to adapt to improve to meet the changing needs of citizens and communities. Science is at the heart of it, whether you're talking about risk assessment, risk management, or effective technologies to monitor, control, and produce. It's also the key to successfully tackling emerging challenges and seizing on future opportunities.

Unfortunately, especially in the midst of budget crises, people and governments tend to short-change long-term planning and scientific monitoring prospects for near-term, concrete ribbon-cutting projects.

### Home Grown Solutions

While most of the basic and applied science in U.S. environmental law and policy stems from national and international organizations, we have major local players here in Arizona helping to solve not only our problems, but regional and global ones too.

Arizona State University, University of Arizona, and Northern Arizona University have strong environmental science and policy programs, ranging from topics on sustainability and solar power to green building and Biosphere 2 to waste management and tribal environmental protection. Intellectual firepower and first-rate facilities make these public institutions world-class assets in the state's quest for

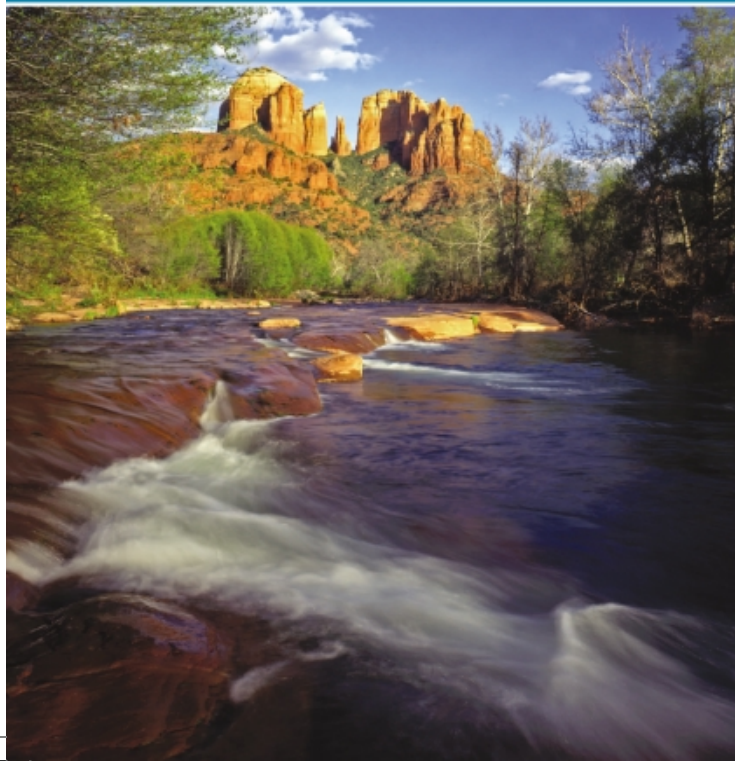


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a green economy. Agencies such as the Arizona Commerce Authority, Arizona Department of Transportation, Department of Water Resources, Department of Agriculture, and, of course, ADEQ need to continue to tap into the schools' talent pools, partner on promising projects, and market their capabilities to agencies and entrepreneurs around the country.

I'm also seeing significant work among Arizona utilities and private sector leaders. Arizona Public Service and Salt River Project, to name two, continue to partner with others to support cutting-edge research and pilot projects on timely topics such as solar power, water efficiency, and advanced coal power.

## My Top 10 Wish List

Seems to me the more progress we make, the more obvious the gaps become. Here's my list of 10 big science and technology breakthroughs to help close the gaps, some sooner and more realistic than others:

### 1. Faster, cheaper ground water cleanups

Arizona has dozens of complex, toxic chemical plumes underground. Current "pump and treat" technologies can be relatively slow and extremely expensive. How soon will better technologies be available, whether involving in-situ treatment, nanotechnology, bioremediation or some other approach?

### 2. Better E-waste recycling

Until recyclers can more effectively, safely and efficiently break down the components of our hi-tech litter (such as the cathode ray tubes in TVs and computer screens), the markets won't develop as quickly as we'd like. Also, enhanced education, convenience and recycling market development are critical. Recovering valuable metals and preventing toxic releases should be the goal of Arizona researchers and legislators.

### 3. Clean, green, water-stingy energy

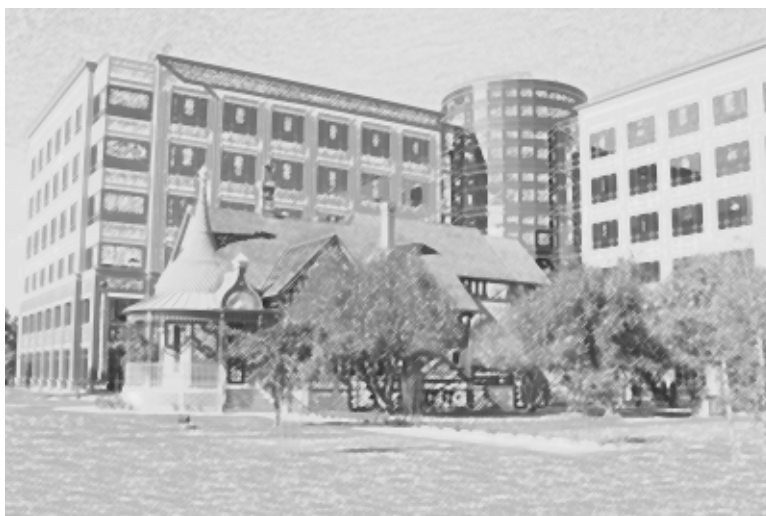
Arizona is gaining steam, so to speak, in its quest to become the solar powerhouse of the nation. The push for dry-cooled, rather than wet-cooled, concentrating solar power is making progress but the costs and practicalities are still a problem. Technology, capital, infrastructure, and coordinated regulation will be key. The Brookings Institution's recent report on the need for renewable energy innovation in Mountain West states is worth a close look. It recommends regional energy research and commercialization centers in strategic locations, including one for solar research focused on Arizona, Nevada, and New Mexico. Algae biofuels are a particularly promising part of green jobs growth in Arizona, too, as demonstrated by the international Algae Biomass Summit held in Phoenix at the end of September 2010.

### 4. Cleaner coal combustion technology

"Advanced coal power" continues to be an excellent investment for business, government, and academia whether the driver is climate change and CO<sub>2</sub> or clean air and pressing problems such as mercury pollution and regional haze. Arizona, like the rest of America, depends heavily on coal. As we transition to other energy sources, we need continued progress on affordable scrubbing of coal combustion pollution and effective and safe capture and underground storage of CO<sub>2</sub>. U.S. leadership on this will help the planet as other countries race to burn more coal.

### 5. Pollution-free tail pipes

Ozone and particulate matter continue to top the list as some of Arizona's greatest threats to air quality and public health. Environmental technology can be a real driver, as well as "eco-driving" involving fuel-saving habits and practices. We've seen significant progress over the last decade in reduced tailpipe emissions. How long before we have electric pickup trucks with charging as easy as cell phones?



### 6. Dust control

In tackling one of Arizona's greatest challenges, air and water strategies become linked. Can we afford to deplete our precious water supplies to keep particle pollution grounded? Non-toxic dust suppressants, like pine resin and biodegradable polymer solutions, can help reduce the dust-ups so entrepreneurs and researchers need to continue to invest. Do we fully understand the connection between dust and snowmelt? I don't see any easy silver bullet dust-busters, though, for desert-based downwind and downstream communities, at least not in the near future. It will continue to take a combination of strategies involving accurate monitors and source detectors, smart growth, and hard choices.

### 7. Durable, leak-free infrastructure

Large and small, centralized and decentralized, water and wastewater systems age, fail, and cost families and communities dearly. Scientists and engineers know it's all about the pipes. My dream is that the public will increase funding and scientific support for smarter systems, including the design, choice of materials, installation and maintenance of conveyances, treatment plants, septic, and beyond. Meters and leak detectors are also key to sustaining infrastructure to support our most precious liquid asset.

### 8. Affordable water reuse and desalination

Arid realities will make "Re-use or die!" a bumper sticker slogan, if not a license plate motto, in Arizona and similarly situated states in the near future. The National Academy of Sciences and global corporations like General Electric and Siemens know our future depends on making cheaper, better technologies to filter out impurities to expand water and wastewater recycling

*Continued on next page*

# T.H. ENTERPRISES

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## ADEQ DIRECTOR BEN GRUMBLES: "R and D"

Continued From Pg 5

opportunities. Sometimes the energy and maintenance costs for "reverse osmosis" are absolutely prohibitive. This is changing but the need for faster deployment is growing rapidly, especially if we hope to de-salt marine water and brackish ground water in a meaningful way. Is there a master's degree in membrane and brine management? If not, there will be.

### 9. IT upgrades and new apps

Environmentalism in the information age can mean many things but for me it has to include data networking and electronic reporting and permitting. Our water, waste, and air data systems must be integrated to help track trends, set priorities, and make informed decisions. Arizona needs to find the money and time to electrify our regulatory reporting and permitting systems. Applicants lose time and money trying to fill out old-fashioned paperwork. This also will significantly reduce resource use and pollution associated with producing, transporting, storing, and recycling paper.

### 10. Climate change adaptation

Last but certainly not least, Arizona and other states should focus attention on the wide-ranging, multimedia needs in a climate-changing world. Drought, wildfires, shrinking sinks for carbon storage — these and other issues need the attention of scientists and resource managers. Universities, ADEQ and other organizations are working on potential adaptation strategies. It needs to continue, particularly the "down scaling" of climate impacts and forecasts to the local, watershed-based level. Accurate facts and forecasts can do wonders to help us adapt and also adopt effective policies to mitigate greenhouse gas emissions.

My wish list has some glaring, big-scale omissions such as nanotechnology, biotechnology, and genomics. Learn more about those and other subjects such as computational toxicology and earth engineering in Environmentalism and the *Technologies of Tomorrow: Shaping the Next Industrial Revolution*, edited by Robert Olson and David Rejeski (Island Press, 2005).

This list focuses on some of Arizona's high-priority problems and yet-to-be perfected scientific solutions. Of course, the best science and greatest gizmos in the world shouldn't be substitutes for an ethic of personal responsibility and stewardship. They should go hand-in-hand, which is also how Republicans and Democrats should work together on a range of nonpartisan science and technology solutions to boost environmental protection and economic prosperity.

**Benjamin Grumbles**  
Director, AZ Department  
of Environmental Quality



# JOURNAL OF Environmental Management

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## From the Editor



With the next issue of the Journal (Dec/Jan) we will complete eight years in publication! The Journal continues to serve Arizona's environmental management community entirely free of charge to subscribers, as always! Many of you have been our subscribers from the first issue — and I appreciate your long years of loyalty to the Journal! Because of the tight economy the Journal is a little leaner than we were years ago, but we

work hard to fit more valuable content than ever into less space! If you enjoy & value the Journal, please take a few minutes (right now, if possible!) to **call an advertiser** & thank them for supporting the Journal and the environmental management community! That's all it takes to help keep the Journal going strong for many more years!

EMTV, our new online video program for environmental management professionals, was launched on September 7th. In addition to brief weekly video reports, we continue to add informative & educational videos on a regular basis — be sure to check it out and become a regular viewer! Recent "Channel" videos include Mike Ford and Pejman Eshraghi discussing Water Quality Improvement Grants (found on Mike's Channel page), and ADEQ Dir. Ben Grumbles on "Clean Energy", found on the Directors Channel page. The site can be found here: [www.environmentalmanagement.TV](http://www.environmentalmanagement.TV).

**Jim Thrush, M.S. Environmental Management**  
Editor & Publisher

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## Sustainability and Sustainable Development

Nicholas R. Hild, PhD.

### Cellulosics Biorefineries

***“(We will)...move the nation beyond a petroleum-based economy and make our dependence on Middle Eastern oil a thing of the past.”***

(G. Bush, 2006)

On the eve of the 2006 congressional elections at a conference titled, “Advancing Renewable Energy: An American Rural Renaissance,” (then) President Bush followed his talk by answering a question about what his plans were for cellulosics: (paraphrasing), he said, ... cellulosic ethanol made from nonfood sources, crop residues, and wood wastes, would become *“practical and competitive within six years.”*

Later, in 2007, Congress passed the (Bush) Energy Independence and Security (EI&S) Act which carried several inducements to stimulate cellulosic ethanol production—the new Renewable Fuel Standard (RFS) being the most significant—requiring 36 billion gallons per year of ethanol and ‘advanced fuels’ capacity by 2022, with 250 million gallons of that being cellulosics-derived ethanol—and tasking the EPA with implementing the law.

The law’s rationale was to reduce vehicular greenhouse gas emissions, cut U.S. dependence on imported foreign oil, and increase income for U.S. farmers. But, adding in all those complicated requirements has only served to filibuster the whole process of getting commercial cellulosics biorefineries built and producing ethanol.

Here’s why: the RFS requires all that 36 billion gallons are to be made from renewable feedstocks and a life-cycle-analysis (LCA) must be performed for greenhouse gas emissions from different feedstock sources and fuels—from start of production to end of use—for each one!

To complicate it further, 16 billion gallons must be from cellulosic materials that produce at least 60% less greenhouse gas emissions than gasoline with another 5 billion gallons of “other” advanced biofuels and biodiesel with similar greenhouse gas reductions—is it any wonder why with all these hoops to jump through, that no commercial cellulosics biorefinery has been built yet? How can you design for feedstock that has yet to

be ‘qualified’ to meet all the RFS requirements?

The EPA is as frustrated with all those complicated ‘screening’ requirements as the biorefinery industry is and it comes as no surprise that the EPA just dialed back that 16 billion gallon per year ‘goal’ for the second time in two years, to between 5 and 17 million gallons, the amount actually made by a few cellulosics pilot plants last year.

There is not much sympathy being shown by the politicians who are deliberating the fate of the Bush-plan ethanol tax credits, set to expire by the end of this year. There is, however, a lot of behind-the-scenes lobbying taking place: the Congressional Budget Office (CBO) wants those credits to expire and reported in July that the cost of ethanol to taxpayers is about \$1.78 for each gallon of gasoline it replaces. In their cost formula, the CBO factors in the fact that ethanol carries only two-thirds of the energy value of gasoline, so that greatly impacts how much gasoline it can offset.

Add into that the tax credit of 45 cents per gallon for ethanol production (the tax credit that will expire at the end of this year) —monies actually NOT available to the biorefinery facilities because those ‘credits’ go to the oil companies that blend ethanol into their gasoline, (to the tune of \$4.7 billion last year!) who want to keep those tax credits in place— and you have taken another step toward raising the complication factor for cellulosics biorefineries.

The Union of Concerned Scientists (UCS) has recognized this rapidly approaching conundrum and is offering a “Billion Gallon Challenge” that is meant to wean the U.S. off corn ethanol and produce the first billion gallons of cellulosic ethanol. Senior UCS scientist Jeremy Martin notes that we should be shifting that tax credit to make a tax credit fund to support cellulosic feedstock start-up biorefineries and provide additional funding that actually supports the design and building of cellulosic ethanol production facilities.

“It is silly to continue arguing about what cellulosic crop is best,” Martin says, “and whether the economics will work when we have no operating cellulosic-based biorefineries—the arguments about fuel versus food only show it is important to try to build plants that use different fuels and see if they work....(especially) when that \$4 billion could start up 10 to 20 biorefineries...” in time to meet the ES&I Act time schedule.

In September, C&E News, Bloomberg Businessweek, several national TV network programs, and C-SPAN engaged this topic among other contentious issues and all of them agreed that this is a subject that Congress would be unlikely to take up in an election year but with the 45 cent per gallon tax break set to expire and the bio fuels industry running into the 10% ethanol “blending wall” (i.e. the bioindustry wants that to be at least 15% so they can entice investors for ethanol production from cellulosics feedstock). They concluded that lawmakers will have to deal with this, like it or not, because how this gets addressed will have a huge impact on the future of the renewable energy industry, on U.S. Farmer’s pocketbooks, and (indirectly) the price of grain in the developing world.

Not to mention, a huge impact, by the way, on the future of our children’s, children’s, children.

Nicholas R. Hild, PhD., Professor, Environmental Technology Management, Arizona State University College of Technology and Innovation, has extensive experience in Environmental Management in the southwestern U.S. Dr. Hild can be reached at 480-727-1309 and by email at DrNick@asu.edu.

# Associations Pages

The Journal of Environmental Management Arizona invites environmental, health and/or safety organizations in Arizona to contribute news articles about their associations. Contact the editor at 480-422-4430 x42.



www.azhydrosoc.org

Thank you to everyone who joined us at the AHS Annual Symposium held at the beautiful Westin La Paloma in Tucson! It was a great symposium featuring a highly popular AQ/TASOLV Workshop, many stimulating technical presentations, and punctuated with the awesome live music from two hydrology bands, the Assumptions and the Vadose Zone. AHS members really rock!

And we can't forget our great exhibitors and sponsors, who contribute so much to the AHS scholarships and internships programs. Many thanks especially to Clear Creek Associates, Montgomery & Associates, Resolution Copper, Roscoe Moss Company, Rosemont Copper Company, SAHRA, Schlumberger Water Services, SRP, US Geological Survey, WDC Exploration and Wells, and Yellow Jacket Drilling Services, Inc, our silver sponsors this year!

The chapter monthly meetings have started up again now that the symposium is behind us. Please join one of our fun and informative monthly presentations in Tucson, Phoenix, or Flagstaff. Please check the AHS web site for details. Additionally, planning is already underway for the 2011 Symposium hosted by our small, but mighty Flagstaff chapter. The symposium in the pines is always a real treat – and what a great reason to visit Flagstaff in September!



Christine O'Day  
Executive Director



www.eia-az.org

The 2010 Environmental Information Association held in Las Vegas exposed attendees to amazing presenters and topics. We were presented with the great potentials for alternative energy use via hydroelectric, bioenergy, geothermal, wind and solar power- and brought back to reality by the "Yeah, but's"; relived a plan that came together through the eyes of a member of the design team- and viewed the finished product of a LEED constructed building; and learned new economic trends in the environmental due diligence industry. Guess you needed to be there.

The EIA will continue providing complimentary education programs for asbestos awareness throughout the year. Please visit our web site or call 602-437-3737 ext. 123 for information on all upcoming events sponsored by EIA-AZ and for membership and sponsor opportunities. We encourage participation from members and non-members (environmentally concerned community) involvement with our outreach programs.



Vicky Aviles  
Past President



www.awma-gcs.com

AWMA Grand Canyon Section (AWMA-GCS) will hold their next monthly meeting at noon on Thursday, October 21 at APS in Phoenix. Cathy Arthur, an associate with Maricopa Association of Governments (MAG,) will present an overview of current air quality issues in the Phoenix area, including EPA's decision on the 5% plan for PM10. Colleen McKaughan, Associate Director of the Air Division for EPA Region 9, presented an overview of current air quality issues in Arizona at our September meeting.

We are currently seeking candidates for officers in our section (Chair, Vice-Chair, Secretary and Treasurer, each for one-year terms). The election will be held in January, 2011. Please check our website for additional information on meetings and for membership information. Also, feel free to contact Darcy Anderson at darcy.anderson@redhorsecorp.com or 520-360-2641 with questions or suggestions for meeting topics.



Darcy J. Anderson  
Chair



www.AzBAS.net

Arizona Businesses Advancing Sustainability (AzBAS) just held their quarterly meeting on Oct. 4, 2010. At each meeting one member company is requested to present briefly on their sustainability efforts. The association uses these presentations as an opportunity for learning best practices from our members and to utilize the collective strengths of our member companies to address questions and challenges we may be having in implementing corporate sustainability programs. The presenter this quarter was a local golf ball manufacturing company—Dixon Golf. Dixon Golf produces environmentally friendly golf balls and offers an innovative take-back program to recycle the balls after use. Key supporters of the company include actor Don Cheadle and Pro Golf Instructor Jeff Ritter. We encourage readers to check out this innovative locally grown company: www.dixongolf.com.

We would also like to take this opportunity to congratulate three of our member companies for obtaining recognition on the prestigious Dow Jones Sustainability Index. Companies from around the globe are encouraged to submit information for inclusion on this elite socially responsible investment index but only 10% of them are accepted. AzBAS is pleased to report that Henkel, Pinnacle West and Intel all receive standing on the index and furthermore all three have been listed for numerous years. They represent the very best of sustainability minded companies. Their presence in AzBAS provides tremendous value in helping our member companies learn more about best practices for implementing corporate sustainability programs.



Richard Condit  
Chair



www.azchamber.com

The Arizona Chamber and Manufacturer's Council Environment Committee continues to hold monthly breakfast meeting focusing on timely topics associated with industrial environmental compliance. The November 10, 2010 Breakfast meeting will feature Bill Wiley who has recently been appointed as Director of Maricopa County's Air Quality Department. The December 8, 2010 meeting will include a presentation from Linda Palumbo from the City of Phoenix concerning the City's new MS4 permit and its impact on business and industry. Breakfast meetings continue to be held at the Phoenix Sheraton Hotel located at 1600 S. 52nd Street Tempe, AZ 85281. Check the Arizona Chamber's web page at www.azchamber.com for meeting details.



Jeff Homer  
Chairman  
Environment  
Committee



www.valleyforward.org

World-renowned *National Geographic* photographer Joel Sartore notes in his newest book that nearly 2,000 plants and animals are listed as endangered species. This doesn't even account for those that are already extinct. Forty Arizonan species are endangered or threatened under federal law, meaning they are close enough to extinction to necessitate protection. Arizona is losing its native wildlife. As animals ourselves, this should make us very nervous.

Sartore's latest book, *Rare: Portraits of America's Endangered Species*, started as a personal project and grew into a three-year effort to document everything from grizzly bears to endangered flies. *Rare* includes portraits of some of the country's most endangered creatures. Some of them are likely to go extinct without people ever knowing they existed.

Despite the somber topic of extinction, Sartore's book manages not only to present the beauty of some of the last members of animals and plant species in the world, but also to inspire readers. The last chapter of the book showcases animals that have started to come back from brink of total extinction through conservation programs, such as the bald eagle, the gray wolf and the California Condor.

Valley Forward is privileged to be hosting Sartore as the keynote speaker at our 41<sup>st</sup> Annual Luncheon held on Dec. 3 at the Hyatt Regency Phoenix. He is also appearing for an evening production at the Mesa Arts Center on Dec. 8.

Sartore's thought-provoking message captures the reality of the Earth's vanishing biodiversity and what we stand to lose if we don't act now.



Diane Brossart  
President





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www.seshaonline.org

Citing the need "to focus on my rewarding career, and family and friends" Kristie Kilgore has resigned as President of SAEMS. We recognize Kristie's contribution to SAEMS during her two years on the Executive Board. Elected earlier this year as President-Elect, Ken Asch assumes the office of SAEMS President.

SAEMS has a busy fall ahead. Though SAEMS was created to promote understanding of environmental issues and provide a forum for the exchange of information, members find that SAEMS also provides opportunities to improve the environment. Lower temperatures means putting on sunscreen and long sleeve shirts to volunteer at SAEMS-organized community clean-up projects. On September 11<sup>th</sup> the quarterly highway cleanup was conducted along I-10 at the Sonoita exit and another wildcat dump cleanup will occur on October 16<sup>th</sup> near the Tucson Airport.

On September 23<sup>rd</sup>, SAEMS sponsored a one-day seminar "Sustainable Growth to Reduce Our Carbon Footprint," illustrating valuable strategies to reduce or eliminate reliance on finite resources. The topics included tools to measure your carbon footprint, how to calculate the rate of return on a project and resources available to help reuse unwanted materials. The seminar was followed by SAEMS 1<sup>st</sup> annual golf tournament to generate revenue to support future scholarships for students in environment fields of study.

SAEMS luncheon meetings are held the last Wednesday of the month at the Manning House, starting at 11:30. Visit our website to learn more about the organization and find membership information and application forms.

Ken Asch  
President



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Congratulations to new CHMMs in Arizona: Mark Aaron (also a new Thunderbird!), Michael Biever, Gregory Chambers, Evelyn Dawson, Justin Dutmers and Chris Hall.

And great to see Matt Conway, Dave Grisa, Cathy Palasz, Able Ramirez and Shannon Rose (prize winner for longest distance: Tulsa, OK) at Dave's Electric Brewpub!

In the Current Events department, the Salt River Pima-Maricopa Indian Community will host a Household Hazardous Waste Collection from 8 am to 12 pm on October 23<sup>rd</sup>, 2010. Volunteers from the Thunderbird chapter will be on hand.

Jeff Page  
CHMM  
Board Member



At our September luncheon meeting, Ms. Katherine Gosiger, Safety Compliance Manager of the Arizona Department of Occupational Safety and Health gave an update on current safety trends and changes. In particular, fatalities due to workplace accidents shows a marked improvement. However, there is still work to do, since the fatality rate in Arizona is still not zero.

In October, Mr. John Burnside of Polsinelli Shughart PC presented the requirements of EPA's new "Tailoring Rule" for permitting significant sources of greenhouse gases (GHG). This new rule takes effect in January 2011, for new large sources of GHG emissions, with additional requirements becoming effective for existing sources in the not too distant future.

At our November luncheon, we will have an update on the soon to be published Arizona Stormwater Multi-Sector General Permits for industrial and mining facilities. The topic for the December luncheon will be recycling, with a special opportunity to help out some of the less fortunate children in our community.

EPAZ normally holds monthly luncheon meetings on the 2<sup>nd</sup> Thursday of the month from 11:30 am to 1:00 pm. at the SRP PERA Club. For details and reservations, please go to our website. EPAZ also gathers on the last Wednesday of the month for a casual cocktail mixer at various locations throughout the valley. However, no mixers are planned for November and December. Visit our website to find the location of our next mixer or contact Mannie Carpenter at (480) 829-0457 for more information.

Mannie  
Carpenter  
President



## American Society of Safety Engineers

November 16<sup>th</sup> will be our next Southern Arizona Safety Council meeting. It is held at Granite Construction from 8:30 - 12:00. Please bring toys for our annual toy drive.

Just a reminder, ASSE is excited to be celebrating its 100<sup>th</sup> anniversary this year and the region is celebrating its 50<sup>th</sup>. The 100<sup>th</sup> year celebration will be in Chicago in June. Mark your calendars so we can see as many safety professionals as possible to share in the festivities. Mark Grushka and Marty Moon are working on a special Kiosk about the past 100 years in safety in Arizona to present at the celebration. Please contact them if you have any input.

On the local side of safety, during the Regional Operating Committee on April 29<sup>th</sup> and 30<sup>th</sup>, 2011, we will have Key Note speaker Sheri Maxwell from the University of Arizona. She will speak on behalf of Dr. Germ on their studies of germs in common places and the importance of hygiene to defend against the germs.

Alexis  
Westin  
Secretary



We are pleased to announce that the SESH - AZ Chapter Mini conference will be held on November 9<sup>th</sup> from 8:00am to 3:30pm. The session will be held at the ASU University Club at the following address 425 E. University Dr, Tempe, AZ 85287. Ira Domsy, Science Advisor and Chief Information Officer for ADEQ will provide the Keynote speech. This conference is a great opportunity to meet Face to Face with a high level representative from ADEQ at an informal setting. The other topics of presentation at the Conference include the upcoming Greenhouse Gas Regulations and their impacts to local Arizona businesses, upcoming electrical safety regulations in NFPA70E, how to achieve LEED certifications for existing buildings, Fire Safety compliance requirements and associated SEMI standards, Electronic waste management principles and Cost savings through Energy Efficiency.

We hope you are able to join us for our Mini-Conference in November. Please contact me at 480-715-4138 or Vijaya.geetha.ks@intel.com if you would like to attend the conference. Space is limited, so please register soon to reserve your spot!

Vijaya Geetha KS  
President



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The Alliance EMS Committee coordinated a presentation on "US EPA Partnerships to Reduce Your Carbon Footprint" at the September 23<sup>rd</sup> SAEMS P2 Seminar in Tucson. Our primary speaker, Ray Saracino, is Industry Clean Energy Lead at US EPA Region 9, and a member of the Alliance Advisory Council. Ray discussed EPA programs for industry including Climate Leaders Energy Star, and the Green Power Partnership.

Ray not only spoke about reducing our carbon footprint, he was actively participating in carbon use reduction. Ray presented his Powerpoint remotely to seminar attendees in Tucson from his San Francisco EPA office! Ray calculated that the remote presentation saved 1500 air travel miles, equivalent to approximately 0.6 metric tons of CO<sub>2</sub>e. For information on the Alliance call us at 480-422-7392.

Matt Conway  
Chair



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# News Briefs

## **EPA Proposes to Disapprove Maricopa County's Air Quality Plan**

❖ The U.S. Environmental Protection Agency recently proposed to disapprove Maricopa County's air quality plan because it does not adequately control emissions of coarse particulate matter.

"Phoenix has an air quality problem that EPA is committed to solving. Too many residents in our nation's 5th largest city suffer from asthma, chronic lung disease and other breathing disorders resulting from particulate air pollution," said Jared Blumenfeld, EPA Regional Administrator for the Pacific Southwest. "The State's plan does not achieve the emission reductions needed for Maricopa County. While it does take some steps to control pollution, more aggressive measures are needed to achieve air quality standards."

The Maricopa area is considered in "nonattainment" for coarse particulate matter (PM-10) — meaning the air quality fails to meet national standards for this pollutant. The State of Arizona submitted a plan in 2007 intended to ensure that coarse particulate matter was reduced by five percent each year until the standard was attained. The State did not correctly inventory the sources of PM-10, resulting in a plan that does not satisfy the requirements of the federal Clean Air Act. Additionally, the State contends that many of the days with poor air quality, when particulates exceed the standards, are due to "exceptional events" such as dust storms. But EPA has determined that a legally significant number of these exceedances were not caused by "exceptional events."

EPA is proposing to approve those elements of the plan that will help reduce air pollution in the County, including ones regulating leaf blowers, unpaved areas, burning and other sources of particulate matter. However, these elements are not sufficient to approve the entire plan.

EPA's action will be sent to the Federal Register for publication as a proposed rule giving details of the plan's deficiencies and announcing a 30-day public comment period. EPA will continue to work with State and local officials to provide policy guidance and technical expertise so that a stronger plan can be submitted quickly.

EPA will make its final decision on the plan in early January 2011, after reviewing public comments. Certain sanctions may attach if the plan is disapproved and deficiencies are not corrected in a timely manner. More stringent facility permitting requirements may be imposed after 18 months. After 24 months,

highway funding restrictions may be imposed. This should provide sufficient time for the Arizona air quality agencies to fix the plan.

Transportation projects scheduled from 2011-2014 would not be affected, and should be able to continue as planned. Even if funding restrictions are imposed, no transportation dollars will be withheld or lost, rather, the money must be spent on a more limited set of projects until the issues are resolved. In 1999, when EPA notified the State that an earlier version of its PM-10 Plan was not approvable, the State corrected the plan and resubmitted it in 2000. EPA was able to approve the revised plan in time to avoid sanctions.

Airborne particulates are a serious threat to human health. Major concerns include effects on breathing and respiratory systems, damage to lung tissue, cancer, and premature death. The elderly, children, and people with chronic lung disease, influenza, or asthma, are especially sensitive to the effects of particulate matter. A study released in 2009 by Arizona State University showed that when the levels of PM-10 (particulate matter up to 10 micrometers in diameter) in Central Phoenix were high, there was a significant increase in asthma incidents in children.

The nonattainment area is located in the eastern portion of Maricopa County and encompasses the cities of Phoenix, Mesa, Scottsdale, Tempe, Chandler, Glendale, as well as 17 other jurisdictions and unincorporated County lands. The nonattainment area also includes the town of Apache Junction in Pinal County.

## **Notice of Public Hearing to Discuss Proposed AQ Permit: Phoenix Brick Yard**

❖ The Maricopa County Air Quality Department announced recently that it has received a new permit application from the Phoenix Brick Yard, located at 1814 S. 7<sup>th</sup> Avenue, Phoenix, Maricopa County. The facility manufactures bricks, and is owned by Clinton-Campbell Contractor Inc.

Air contaminants to be emitted are: Hazardous Air Pollutants, Particulate Matter, Products of Combustion. Activities applicable to action: Brick Manufacturing. The department will hold a public hearing to discuss the proposed permit:

**Hearing Location: Dunbar Elementary School (Cafeteria)  
707 W. Grant Street, Phoenix, AZ 85007**

**Hearing Date: Thursday, October 28, 2010 at 6:00 p.m.**

The purpose of this hearing is to receive comments from the public for the proposed air quality permit. Comments should address whether the proposed permit meets the criteria for issuance in accordance with Arizona Revised Statutes §§ 49-426, 49-427 and 49-480.

The permit application may be reviewed by contacting the Records Management Coordinator at (602) 506-6201 or at the department's address: 1001 North Central Avenue, Suite 400, Phoenix, Arizona 85004. Arrangements may be made to view the information every Monday through Friday (excluding major holidays) between 8:00 AM and 4:30 PM. There is a small fee for copying.

*Continued on page 12*

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## A Networking Success Story



About ten years ago I attended the first of what was to become an annual trek to the Phoenix Open and The Bird's Nest (and all that that implies) with a intimate group of about twelve fellow consultants and attorneys. To say the outings were a "hoot" would be an understatement and a few selected stories are sworn to secrecy amongst the group. As enjoyable as the events were, I was getting little professional benefit and justifying the expenses weighed on me a bit. The events have since stopped, but not without forging relationships along the way. The one subject of this story is an attorney we will call "Ben" with ABC, LLP.

When I started at ATC three years ago, I perused my contacts and reached out to my network, calling and visiting people to inform them of my new position. One of those visits was to a colleague from my early days whom I had somewhat lost touch with. I worked closely with him as we cut our teeth in the industry and would consider him a mentor of sorts; we'll call him "Sam". Our visit was great. I got a detailed tour of the manufacturing plant he was running and we had a good opportunity to reconnect. The trip required travel and a few days away from the office at some expense to the company. I pride

myself in attaching measurable value to expenses but in this case, like the Phoenix Open outings, I found it difficult.

A few months later Sam called to let me know he referred ATC for a multi-media compliance audit for his facility, a nice project. He said a formal request for proposal (RFP) would be issued and my competition would be a former colleague of ours. When the RFP arrived it came not from Sam, but from ABC, LLP. Sam had decided to run the project through a law firm which would be our client. So, off we went preparing our proposal. I did not know the attorneys assigned to this particular project and had not yet made the connection to my past outings with Ben. Enter another networking event....

CRENAB (a real estate networking group) held an event three days prior to the due date of our proposal. Staying true to my networking commitments, I attended and I'm glad I did. Ben was there. We struck up a conversation that quickly turned to the proposal I was working on for his colleagues and he offered to put in a good word for us. He followed through with a nice email to his work-mates showing support for ATC. We were awarded the project a week later. That alone is a good story, but it gets better.

My competitor-friend conducted a debrief as to why they lost the bid and one of the reasons cited was because ATC had a team member familiar with the facility! In this case, networking was directly responsible for the initial referral from Sam, the second referral from Ben and my familiarity with the facility that led to the award. Not to mention the relationship maintained over the years with my competitor-friend who provided the final nugget of information that made this interesting.

Networking is never easy to measure; it rarely produces direct results in the short term and management can always find reasons not to spend money on it. But I dare you to stop.



*Joe Holmes is the Regional  
Manager of Business  
Development at ATC Associates.  
He can be reached at  
joe.holmes@atcassociates.com.  
Joe C. Holmes*

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## News Briefs

Continued From Pg 10

### EPA Proposes NOx Pollution Controls at Four Corners Power Plant

*Says Move would reduce 36,000 tons of NOx - equal to taking half the gasoline cars and trucks in Arizona off the road*

❖ The U.S. Environmental Protection Agency recently proposed requiring additional pollution controls for the Four Corners Power Plant located on the Navajo Nation near Farmington, New Mexico to improve visibility and human health. EPA's proposal will require plant operators to install the most stringent pollution control technology available for this type of facility. These controls will reduce emissions of nitrogen oxides (NOx) from approximately 45,000 tons per year to 9,000 tons per year.

According to the EPA, every year over 280 million people visit our nation's most treasured parks and wilderness areas. Yet, many visitors aren't able to see the spectacular vistas because of the veil of white or brown haze that hangs in the air, reducing visibility and dulling the natural beauty. There are 16 national parks and wilderness areas in the vicinity of the Four Corners Power Plant, including the Mesa Verde and the Petrified Forest. These controls are estimated to reduce the visibility impact by an average of 57% at these areas.

In addition to reducing visibility, nitrogen oxides (NOx) react with other chemicals to form ozone and small particles, both harmful to the public's health. Ozone forms when nitrogen oxides and volatile organic compounds react in the presence of heat and sunlight. Children, the elderly, people with lung diseases such as asthma, and people who work or exercise outside are at risk for adverse effects from ozone and particulate matter.

"The Four Corners Power Plant is the largest source of nitrogen oxides in the nation," said Jared Blumenfeld, EPA's Regional Administrator for the Pacific Southwest Region. "Adding new pollution controls at this 45-year old plant will reduce these emissions by 80%—we will all be able to see the results and breathe cleaner, healthier air."

The Clean Air Act's Regional Haze Rule requires the use of Best Available Retrofit Technology at older coal-fired power plants to reduce haze and improve visibility. EPA's proposal is achievable by installing and operating Selective Catalytic Reduction on all five units at the plant. The installation and operation of SCR is estimated to increase the electricity bill for the average Arizona Public Service residential customer by about 70 cents per week.

SCR is cost effective technology that will result in the greatest visibility improvement of all devices the agency considered. When the proposal is finalized, the Four Corners Power Plant will have five years to add the controls.

EPA said it will continue to consult with the Navajo Nation and other affected tribes, and the Federal Land Managers before taking any final action. There will be a 60-day public comment period on the proposed action as well as two public hearings in the Four Corners area.

## SAEMS P2

### Sustainable Growth to Reduce our Carbon Footprint

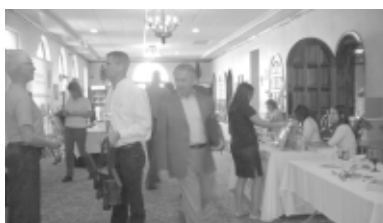
The Southern Arizona Environmental Management Society (SAEMS) held its annual P2 Seminar on September 23rd at the Manning House in Tucson, Arizona. This year's theme was, "Sustainable Growth to Reduce our Carbon Footprint". The SAEMS 1st Annual Golf Tournament was held the following day.

"SAEMS has conducted P2 seminars in Tucson for more than a decade", said SAEMS Communications Coordinator, Pamela Beilke. One of the presentation topics, Calculating Your Rate of

Return, is especially interesting, Pamela said, because "so many people are interested in doing the right thing, such as investing in solar energy or buying a hybrid vehicle, but don't know how to finance it or how to justify it to their corporate office."

Several short video clips from the seminar are available online at [www.environmentalmanagement.TV](http://www.environmentalmanagement.TV) (select Weekly Report #4).

Seminar attendees also had an opportunity to visit a number of vendor booths and network with other environmental professionals. Proceeds of the seminar help support the SAEMS college scholarship program.







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### Presentation topics

Seminar presentation topics included: Climate Change Legislation, Jeff Yockey, TEP; Measuring Your Carbon Footprint, Brendan Cook, Eco Aid; The Miracle of the Sun, Lon Huber, University of Arizona; Calculating Your Rate of Return, Roman Black, Solar Gain, and James Hennessy, Primestar LED; Practical Application at the University of Arizona, Joe Abraham, Campus Sustainability Coordinator; Western Climate Initiative, Lee Alter, Climate Change Consultant; The Future of Air Quality Regulation in Arizona, Roger Ferland, Quarles & Brady; Reuse of Construction Material, Terry Dee,



P2 Seminar Committee Members: (L to R) Heather Shoemaker, Frank Bonillas, Pamela Beilke, John Barr, and Gerardo Mayoral.

Habitat for Humanity; Sustainable Development in Pinal County, Sandie Smith, Pinal Partnership; Financing Green Buildings, Bill Holmes, VP Community Relations Wells Fargo; Freecycle@Work, Deron Beal, the Freecycle Network; Household Hazardous Waste, Frank Bonillas, Tucson/Pima County HHW; and EPA Partnerships to Reduce Carbon Footprints, Matt Conway, PING, and Ray Saracino, EPA Region 9, for the AESA.

For more information on SAEMS and this year's P2 seminar visit [www.saems.org](http://www.saems.org).



View video clips of the SAEMS P2 Seminar at: [www.environmentalmanagement.tv](http://www.environmentalmanagement.tv)  
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## REGIONAL FORUM—NOV. 13, 2010 RECHARGE OF TREATED WASTEWATER TO GROUNDWATER: WHAT ARE THE RISKS?

In the Southwest, where groundwater supplies are being depleted, it is a given that municipalities recharge treated wastewater to the aquifer to augment the water supply. But, are we creating risks that may be unacceptable in the long term? The question needs examination in view of what we are learning about the presence of emerging contaminants that are unregulated and not completely removed by our conventional treatment processes.

The forum will summarize the status of artificial recharge of treated wastewater in the Prescott and Verde Valley region; explain the regulatory framework; summarize what is known about contaminant levels that persist in wastewater and groundwater; examine the effects of contaminants on human health and aquatic life; and present a case in which a community has taken action beyond the requirements of regulation. The agenda is available at <http://www.cwagaz.org> or <http://www.vwa.org>.

**Wastewater Recharge Forum**

**November 13, 2010**

**9 a.m.- 4 p.m.**

Advance registration is required; check-in begins at 8:15 a.m. at the Granite Peak Unitarian Universalist Congregation Building at 882 Sunset Avenue, Prescott AZ. A map can be downloaded at <http://tinyurl.com/2cp78ze>.

The Citizens Water Advocacy Group and the Verde Watershed Association are hosting this forum with **no charge to participants**. An optional lasagna lunch is available for \$15, payable at the door. To assure seating for lunch and the forum, please register for each. Unregistered walk-ins for the forum (not lunch) will be admitted as space allows.

To register, email the information below to:

Rebecca.Davidson@srpnet.com.

Registration for lunch must be received by Thurs. Nov. 4th

Name \_\_\_\_\_ Email \_\_\_\_\_

Specify **Forum Only** or **Forum Plus Lunch**: Vegetarian/Non-Vegetarian

For more information about program content, call or email Ed Wolfe (928-776-4754, [ewwolfe@commspeed.net](mailto:ewwolfe@commspeed.net)) or John Zambrano (928-708-1660, [jzam@cableone.net](mailto:jzam@cableone.net)).



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