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JOURNAL ^{OF} Environmental Management

Practical and Current Information for Environmental, Health and Safety Professionals

ARIZONA

**SAEMS 2011
RCRA SEMINAR** Pg 6



SAEMS RCRA Committee Members.
See photo caption at bottom of page 4.

**AZ APPROACH TO CLEAN
ENERGY TECHNOLOGIES
& GREEN JOBS**

ADEQ Director Henry Darwin Pg 11

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June / July 2011 Vol 9 No. 3

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Accommodations have been reserved at the Prescott Resort and Conference Center. Call 800.967.4637 and mention group name "Arizona Manufacturers Council" for a discounted rate!

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Arizona Hydrological Society
24th Annual Symposium

Watersheds Near and Far: Response to Changes in Climate and Landscape

High Country Conference Center, Flagstaff, Arizona

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Terry Fulp, PhD - Deputy Regional Director, USBR Lower Colorado Region
David A. Brown, Attorney - Brown & Brown Law Offices
Daniel G. Neary, PhD - Rocky Mountain Research Station
Grady Gammage, Jr., Attorney - Gammage & Burnham Law Office

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Beaver Creek Watershed

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From the Editor



Attendance at recent environmental events, including the 2011 SAEMS RCRA, has been impressive especially in light of the continued slowdown in the economy. Be sure to check out the upcoming seminars sponsored by ASU (see page 13), AHS (see page 3), the Arizona Chamber of Commerce & Industry and the Arizona Manufacturer's Council (see page 3), and SAEMS (see page 7).

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The Journal is looking for authors — if you would like to contribute an article, please call me at 480-422-4430 x42 or email to jimthrush@cox.net. As always, thank you to our advertisers, authors & columnists, and readers!

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

Journal of Environmental Management Arizona
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COVER PHOTO: SAEMS 2011 RCRA Committee members, L to R: Heather Shoemaker, Tracy Dutton, Pamela Beilke, Barb Ricca, John Barr, Lisa Cuestas, Ken Asch, Frank Bonillas. Committee members not shown: Gerardo Mayoral-Pena, and David Mack. See article & photos page 6.

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SAEMS 2011 Annual RCRA Seminar

The Southern Arizona Environmental Management Society (SAEMS) presented the 2011 Annual RCRA Seminar on May 12th in Tucson.

Scheduled presentations included, "RCRA Basics", Fred



Brinker, Tucson Airport Authority; "Spill Response, What Will You Do", Jim Santino, Southwest Hazard Control; "PDEQ 2011 RCRA: Into the Next Decade", Milena Sousa, PDEQ Enforcement; "How to Deal with Inspections", Barton Day, Polsinelli Shughart PC; "Universal Waste & Recycling Exemptions", Monette Greer, Tucson Electric Power; "House Bill 2705", Amanda Stone, ADEQ; "Waste Minimization / Pollution Prevention", Matt Conway, PING; "E-Waste", Dwight Clark, Ninyo & Moore; "Selecting and Auditing TSD's", Dwight Clark, Ninyo & Moore; "Transportation of Hazardous Materials", Dan de la Torre, Chemical Transportation, Inc.; and "Uniform Fire Code for Hazardous Materials", Dan Uthe, Tucson Fire Department, Retired.

The SAEMS RCRA is organized through the volunteer participation of SAEMS members and its hard-working committee members. Committee Co-Chairpersons were: Lisa Cuestas and Pamela Beilke (see cover photo of committee members). The majority of the profits from the RCRA seminar are placed in the SAEMS University of Arizona Scholarship Endowment to benefit environmental education. SAEMS was formed in 1986 to promote dialogue and education on environmental issues.

For more information on SAEMS, the RCRA Seminar, and other events, visit www.SAEMS.org.

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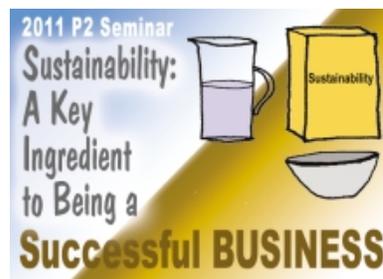


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Associations Pages

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.azchamber.com



www.azhydrosoc.org

The Arizona Hydrological Society's Phoenix Chapter is having a Wine Tasting Fundraiser for the Herman Bouwer Intern Scholarship on Thursday July 14, 2011 from 6:00 pm to 7:30 pm at the Terroir Wine Pub, 7001 N. Scottsdale Rd. #157, Scotts., AZ 85253. We will be tasting five fine wines selected by the co-owner of Terroir Wine Pub (Rich Petrus, a long-time AHS member) and accompanying appetizers. AHS Members, Students and Non-members must be 21 years of age to participate. The cost is \$30 per person donation (you can donate additional funds). As a bonus we are having a canned food drive to help the food banks in the Metro Area. Anybody who brings nonperishable food items will receive a raffle ticket for a special prize, one ticket per item.

Registration is open for the 2011 Arizona Hydrological Society Symposium, "Watersheds Near and Far: Response to Changes in Climate and Landscape," at the High Country Conference Center, Sept. 18th through the 20th, 2011, in Flagstaff, Arizona, at www.azhydrosoc.org/2011_symposium.html.



Christie O'Day
Executive Director



www.AZAEP.org

The Arizona Association of Environmental Professionals (AZAEP) is delighted to join the Association Pages of the Journal of Environmental Management Arizona. AZAEP is a chapter of the National Association of Environmental Professionals and is a statewide organization that provides a forum to facilitate the exchange of ideas while promoting excellence in our profession.

We invite readers of the Journal of Environmental Management Arizona to our monthly meetings that feature top speakers on a broad range of subjects affecting the environment. The meetings are held the fourth Tuesday of the month from 6 to 8:00 p.m. and the fee (member \$15; non-member \$20) covers the cost of dinner. Please go to our website, www.AZAEP.org, and click the button on the left column to be added to the mailing list for announcements about monthly meetings, tours, activities and events that AZAEP conducts and sponsors.

At the upcoming meeting on June 28, Brad Biddle, Standards Counsel for Intel Corporation, and Joshua Wray of ASU, will discuss the innovative algae carbon capture technology being tested at Intel's fabrication site in Chandler. This Fall, AZAEP is also sponsoring a half-day workshop on state-of-the-art public participation techniques for environmental professionals.



Patricia Mariella
Board Member



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www.thunderbirdchmm.org

The Thunderbird Chapter has raised the bar. Every year we look for community and other service projects. With State budgets in shock and government services shrinking in all sectors, many of us in the environmental fold have been wondering how State and local agencies will be able to manage their delegated programs. So we did something about it.

Knowing that training is often the first budget item to go, we designed and offered an Introduction to Environmental Health and Safety Regulations and Compliance course (held June 20, 28, 30, and July 5th). The course was broad in scope and rich in depth, with several Thunderbirds and other industry experts providing training within their disciplines. Among the topics were Clean Air and Water Act, RCRA, OSHA, TSCA, FIFRA, EPCRA, industrial hygiene and environmental assessments - in short, the regulatory foundation for much of our profession. We've done similar courses before. But we've never offered them to ADEQ staff and other qualified regulators at a 90% discount - deciding, in effect, to give the training away to the folks who could best use it. If you are in the public or private sector and attended our recent course, we sincerely hope you found it to be excellent. And we thank you for your professional investment in better management of Arizona's environment and employee health and safety.



Jeff Page
CHMM
Board Member



www.SAEMS.org

At the April meeting, the SAEMS Scholarship Committee announced the winners of the scholarships for 2011, two for \$2,150 and two for \$1,000 (one graduate and one undergraduate each). Through brief descriptions of their activities and ambitions, the University of Arizona scholarship winners who attended the April and May meetings revealed their outstanding qualifications.

The Annual RCRA seminar is the major source of funds for the SAEMS University of Arizona Scholarship Endowment for environmental education. At the May 12th event, RCRA: Into the Next Decade, the wide range of presentations, from RCRA basics, inspections, universal and e-waste management, to selecting and auditing TSDFs was well-suited for all in attendance, which included 5 UA students granted seminar scholarships.

The presentation at the May 25 meeting by Jennifer Gale, Keep Arizona Beautiful Executive Director, clearly illustrated concerns, causes and goals shared by SAEMS and KAZB. Check out their newsletter at www.kazb.org.

The speaker at the annual meeting on June 29 will be ADEQ Director Henry Darwin. At this meeting, the new Executive Committee steps up to accept the challenges of the coming year for SAEMS: Ken Asch, President; Heather Shoemaker, President-Elect; Dan Williams, Vice President; Dave Mack, Secretary; and Barb Ricca, Treasurer.



Ken Asch
President

ARIZONA CHAMBER
of Commerce and Industry

The Arizona Chamber and Manufacturer's Council has scheduled its 2011 Environmental and Sustainability Summit for August 11, 2011 at Embry Riddle University in Prescott, Arizona. This event will consist of an evening reception on August 10th, a full day of presentations and speakers on August 11th and a golf tournament on August 12th. See the ad in this edition of The Journal for more information (pg 3) or go to the Events section of the Arizona Chamber's web page at www.azchamber.com.

The Arizona Manufacturers Council recognized achievements in Arizona manufacturing at the 2011 Arizona Manufacturer of the Year Summit on May 23rd. This event was attended by over 300 representatives of the state's manufacturing community, and featured remarks from Gov. Jan Brewer, Congressmen Trent Franks, Paul Gosar and Ben Quayle and the newly elected speaker of the Arizona House, Andy Tobin. Boeing was named Manufacturer of the Year, LAI International was awarded the Outstanding Small to Medium Manufacturer's award, NEST Energy Services received the Excellence in Innovation Award and Generated Materials Recovery received the Excellence in Sustainability Award. We offer our hardest congratulations to the award winners and our appreciation to them and all manufacturer in the state for continuing to advance manufacturing in Arizona.



Jeff Homer
Chairman
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Committee



www.valleyforward.org

NUCLEAR ENERGY: THE U.S. RESPONSE TO THE TRAGEDY IN JAPAN

The recent tragedy in Japan has prompted a lot of discussion about the risks and rewards of nuclear energy. Surprisingly, the disaster has had little impact on Americans' view of nuclear power. According to a Gallup poll conducted in April 2011, 58 percent of Americans say nuclear power plants in the U.S. are safe. This is only down 2 percent from 2009.

Randall Edington, senior vice president of nuclear and chief nuclear officer at APS's Palo Verde Nuclear Generating Station, discussed the future of nuclear energy in the U.S. at Valley Forward's quarterly luncheon last month. He provided attendees with facts about the nuclear tragedy in Japan, explained how Arizona is different and reviewed the importance of nuclear energy in providing low-cost, low-carbon baseload electricity to supplement renewables.

Not only does nuclear energy produce 27.4 percent of the electrical power generated in Arizona, but Palo Verde is the largest single commercial taxpayer in the state. These are facts that need to be considered in any discussion about energy in Arizona.



Diane Brossart
President

American Society of Safety Engineers

There were 25 people at the Region II Regional Operating Committee meeting hosted by the Southern Arizona Chapter and held at the Biosphere II. The following ten Chapters were represented: Arizona, Southern Arizona, Colorado, Utah, New Mexico, Snake River, Four Corners, Southern Nevada, Sierra Nevada and Big Sky.

Each Chapter reported on its activities and shared information about their accomplishments and challenges. There were reports on the status of Chapter Foundation Scholarships and that some Chapters also fund local scholarships. Many members plan on attending the ASSE 100th Anniversary Celebration and Professional Development Conference in Chicago in June. The Region II Strategic Plan was reviewed and will be submitted to the Society.

Region II hosted its first Student Leadership Conference. This event went so well that the Region plans to host an SLC annually. The 23 attendees represented five Region II Chapters – Arizona, Colorado, Four Corners, New Mexico and Utah.

Speakers at the SLC were:

Jitendra Patel who spoke about ASSE Membership and Leadership. **Steve Holland** and **Julia Rosen**, "The ABCs and CSPs of Certification." **Steve McManus**, Project Management. **Jessie Atencio** presented an OSHA Update. **Jonathan Klane** discussed Conflict Management & Resolution. **Tim Little** talked about Leadership Ethics.

Thank you for a great 40th year of So. AZ ASSE!

Alexis Westin
Secretary



www.azalliance.org

Last month the Alliance held its regular monthly meeting at the Pinal County Complex building in Casa Grande. Our host was Pinal County AQ Deputy Director Kale Walch. After the meeting Kale led members on our tour of two Pinal County AQ Monitoring Stations, including the "notorious" Cowtown Station, the location of some of the highest PM10 recordings in Arizona and the country. Kale explained the reasons for the high PM10 readings as well as steps that have been implemented by the county and local businesses to reduce the local dust levels. (Note: You can view a discussion by Kale and a short video of the Cowtown monitoring station tour at www.environmentalmanagement.tv).

Dan Casiraro
Chair



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We are pleased to announce that the 33rd Annual SESH Symposium that was held May 16th-20th 2011 in Scottsdale, AZ was a great success. There were multiple presentations and round tables on various topics like the new Greenhouse Gas Regulations, Tool Decontamination, Conflict Metals, Fire Safety etc. Thanks to everyone who attended the conference.

Folks in Arizona will have another chance to attend presentations and round tables on these topics at the AZ SESH Mini Conference this November. This conference will be attended by multiple EHS personnel from various semiconductor companies in the valley. If you have any suggestions for presentation topics or if you would like to use this opportunity to sponsor the event and promote your enterprise please contact us at Vijaya.geetha.ks@intel.com.

Vijaya Geetha KS
President



www.awma-gcs.com

Members and guests of A&WMA-GCS toured the ASU Laboratory for Algae Research and Biotechnology (LARB) in May, enjoying an incredibly informative tour and discussion of the lab's research activities and discoveries.

A&WMA International's Annual Conference and Exhibition is currently in progress in Orlando, which wraps up the Grand

READ THE ASSOCIATION PAGES

to learn what's going on in Arizona's environmental management community!

If your organization is not yet included and you would like to participate, give us a call at: 480-422-4430 x42

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Canyon Section's official calendar of events until August, when our meetings and tours will resume. Stay tuned for some great speakers and site visits this fall!

A&WMA-GCS welcomes a new set of officers: **Jamie Wilson**, Chair; **Steve Ochs**, Vice-Chair; **Mike Sonnenberg**, Secretary; and **Darcy Anderson** as Past Chair. **Cathy Palasz** remains as the Section's Treasurer.

Jamie Wilson
Chair



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Larry Olson, PhD.

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BLACK CARBON

While we've been focusing on greenhouse gases such as carbon dioxide and methane as the main drivers for climate change there is another culprit that might be just as important. Black carbon refers to an incomplete combustion product of burning fossil fuels or biomass. It is composed of very small particles, between 0.01 and 1 μm in size, that can stay suspended in air only for a few weeks compared to an atmospheric lifetime of up to 100 years for a CO_2 molecule.

Unlike a greenhouse gas, which is transparent to visible light but absorbs infrared light radiating from the earth and

prevents that heat from escaping into space, black carbon can affect the earth's climate in two ways. First, there is direct radiative forcing where black carbon absorbs incoming solar radiation directly or radiation reflected back into space from clouds, resulting in atmospheric heating. Black carbon is the primary light absorbing component of aerosols, as opposed to sulfates, for example, which reflect light and cause atmospheric cooling. The extent to which black carbon absorbs radiation depends upon the degree to which it is mixed with other light scattering aerosols and upon its altitude relative to cloud cover. But recent models show that black carbon may be responsible for as much as 18% of global warming, second only to the impact of carbon dioxide.

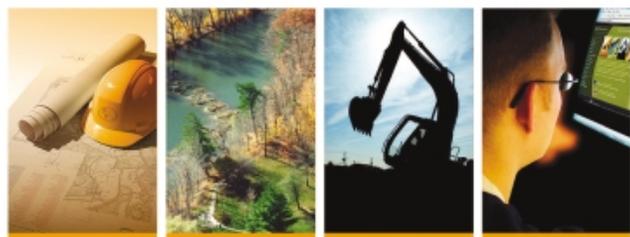
The second method by which black carbon could affect climate is by changing the albedo of the surface. Radiation which is simply reflected back into space and not absorbed does not affect the earth's climate. The smaller the albedo, the more radiation is absorbed resulting in higher surface temperatures. Black carbon deposited on snow or ice has been estimated to cause as much as a 1% decrease in the surface albedo of the northern hemisphere.

Black carbon has always been present in the environment, but its presence has increased dramatically in the last century. This is due to the increased use of coal and diesel fuel, as well as an exponential increase in global population. Most of the world's poor is still dependent upon biomass or coal for heating and cooking. Massive vegetation burning in South America, hundreds of new coal fired power plants per year in China, and millions of diesel engines without any controls in developing countries throughout Asia all contribute to black carbon emissions. 70 – 80% of the population in Africa and Asia still use solid fuels such as wood, dung, crop residues, or charcoal. About one third of the black carbon in the atmosphere is estimated to come from China and India alone. Contributions from the U.S. and Europe are actually decreasing, primarily due to increased controls on coal fired power plants and particulate filters on diesel engines. Since the industrial revolution there has been a three to six fold increase in black carbon in the Swiss Alps and Himalayas.

Because of its small particle size black carbon can also affect regional cloud formation and precipitation patterns. Add to that the demonstrated impacts of particulate matter on human health and reduced visibility and there is no shortage of reasons to focus on reducing the amount of black carbon emitted into the atmosphere.

The lag time in removing carbon dioxide from the atmosphere means that even if we stopped any additional anthropogenic emissions, we would just stop the situation from getting worse and we'll have to wait decades for CO_2 levels to actually begin to decrease. But the short atmospheric lifetime of black carbon results in immediate benefits from reduced emissions. It truly is the low hanging fruit and should be a primary target of any climate change strategy.

Larry Olson, PhD., Associate Professor, Arizona State University Environmental Technology Management Program. Dr. Olson holds a Ph.D. in Chemistry from the University of Pennsylvania, and is an environmental chemist with interests in remediation technologies and international environmental management. He can be reached at 480-727-1499, or by email at Larry.Olson@asu.edu



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ADEQ Director Henry R. Darwin:

Arizona Leads with Incentive-Based Approach to Clean Energy Technologies & Green Jobs

The dialogue surrounding climate change policy — be it at the national, regional, state or local level — has largely shifted away from regulatory or market-based approaches for reducing greenhouse gas (GHG) emissions, toward incentive-based approaches to encourage development of clean energy technologies and creation of green jobs.

This is definitely an encouraging step in the right direction for Arizona, which is uniquely positioned to be a leader in the emerging clean energy economy.

Since Governor Jan Brewer took office in January 2009, her primary focus has been job creation and revitalizing Arizona's struggling economy. To her credit, she has avoided getting bogged down in the public debate about whether climate change is real or whether humans are responsible for it. Rather, she has recognized that it is more important for Arizona to make the most of its considerable solar resources and other natural assets. With her leadership, Arizona will continue creating the right kind of business and regulatory environment that will attract and keep the good paying jobs associated with renewable energy industries.

The Governor's strategy is showing results.

The Solar Energy Industries Association reports that in 2010, Arizona ranked fourth among all states in solar photovoltaic installations (54.0 megawatts) and we are one of only five states that installed over 50 MW each. We are third in concentrated solar power installations (1.5 MW) and third in solar pool heating installations. Moreover, Arizona has five major solar energy generation projects in progress and 20 more large projects planned.

One of the projects making headlines is the 280-MW Solana Generating Station concentrated solar plant 70 miles southwest of Phoenix near Gila Bend. Scheduled to come online in 2013, Solana will be among the largest solar power plants in the world, generating enough electricity to power 70,000 homes. The facility will create 1,600 to 1,700 construction jobs and 85 permanent jobs for operations.

Arizona also has a number of world-class manufacturers deciding to locate operations here. For example, last October the Chinese firm Suntech Power Holdings Co. opened its first North American solar manufacturing facility in Goodyear in the West Valley, enabling the company to respond to the rapidly growing demand for solar throughout the country.

Of course, Arizona is not alone in repositioning its approach to climate change action.

You may recall that Arizona in February 2007 joined New Mexico, California, Oregon and Washington to form the Western Climate

Initiative, a collaboration most often identified with developing a regional, multi-sector cap-and-trade program to reduce GHG emissions. In time, the WCI expanded to include Montana and Utah, as well as the Canadian provinces of British Columbia, Manitoba, Ontario and Quebec.

By the summer of 2010, upon completion of a detailed design for the emissions trading program, only California and three of the four provinces announced their intention to proceed with the scheduled program launch in January 2012. The others, including Arizona, affirmed our commitment to staying engaged in the regional effort to advance a portfolio of policies and strategies to reduce GHG emissions, while creating green jobs, growing the economy, and promoting technological innovation and energy independence.

Arizona was the first in WCI to see wisdom in this approach. Governor Brewer set out her policy on climate change in a February 2010 executive order, which among other things, said Arizona will remain in WCI but not for the purpose of implementing cap-and-trade.

Now other states, including many that are or had been involved in regional collaborations similar to WCI for the purpose of establishing emissions trading programs, are exploring how we may work together to identify new leadership in climate and clean energy opportunities as the landscape of climate policy in North America continues to evolve.

Even President Barack Obama has adopted the new rhetoric, releasing in March his blueprint for a "secure energy future". Absent is talk of comprehensive climate change regulation. In its place are a number of incentive-based programs to foster a clean energy future.

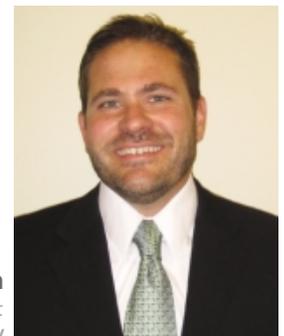
While I am happy to see the President addressing our country's need for clean energy, I am disappointed by a failure to acknowledge the need for a comprehensive plan to transition from our current coal-based energy economy. Our reliance on coal can not and will not end overnight. Power producers are currently left with an almost impossible quandary. Should they invest billions in reducing emissions associated with coal or would it be better to invest those billions in developing cleaner energy alternatives? Unfortunately, EPA, through existing regulatory programs, seems to be making this choice for them, without the benefit of an open national discussion of the issue.

EPA continues down the awkward path of command-and-control regulation of GHG emissions under the Clean Air Act. Arizona has clearly stated its opinion on this matter. The Clean Air Act is designed and intended to be used by state and local air quality agencies to reduce pollutant emissions in defined airsheds, not for dealing with worldwide issues like climate change.

While the Obama Administration talks openly about carrots in the form of incentives for advancing clean energy, EPA quietly wields regulatory sticks to punish coal. A perfect example is the very real situation Arizona is facing with EPA's pending decision at the Navajo Generating Station (NGS). Those who own and operate NGS are being asked by EPA to consider investing what could be billions of dollars to further reduce emissions at the coal-fired power plant - with minimal environmental benefit. The economic impact of this decision is statewide given the importance of this plant to the Central Arizona Project, the tribes, and the rest of us who rely upon NGS to run our air conditioners.

Arizona would like to see the national discussion regarding clean energy to consider existing facilities that will be displaced by the emerging energy diversification, as well as the communities and citizens who are dependent on these displaced facilities for their livelihood.

If and when a national response to climate change and a clean energy future is pursued, Arizona believes Congress is the proper venue to hold the debate. The "round peg, square hole" approach EPA is taking by trying to bend the Clean Air Act to fit its GHG reduction and other energy policy goals is a costly mistake.



Henry R. Darwin
Director, AZ Department
of Environmental Quality

News Briefs

ADEQ Announces Northern Regional Office in Flagstaff to Close

✦ Arizona Department of Environmental Quality officials announced recently that the agency's Northern Regional Office (NRO) in Flagstaff will be closed officially on May 31 because of continuing budget shortfalls and the need to streamline ADEQ operations in the northern part of the state. However, ADEQ will retain a presence in Flagstaff. Northern Regional Office Acting Director Sybil Smith will become the agency's Northwest Arizona community liaison effective June 1 in charge of constituent needs in Coconino, Mohave and Yavapai counties. Smith is available by email at smith.sybil@azdeq.gov, and her new office will be located at 2625 N. King St., Second Floor in east Flagstaff. The new office number will be (928) 679-7307. The mailing address at the Northwest Arizona Community Liaison Office is P.O. Box 639, Flagstaff, AZ 86002.

"Even though we are closing the Northern Regional Office, we will continue the current level of service through our liaisons and the former NRO staff that have been relocated to Phoenix," said ADEQ Director Henry Darwin. Northeast Arizona Community Liaison Byron

James (james.byron@azdeq.gov) of St. Johns will continue to serve Apache, Navajo and northern Gila counties. The community liaison office number in northeast Arizona is (928) 337-3565, the fax is (928) 337-5028 and the mailing address is P.O. Box 2129, St. Johns, Az. 85936.

If Northern Arizona residents wish to contact the central office of ADEQ directly, they can call (602) 771-2300 or (800) 234-5677.

Clin-Path Diagnostics, LLC of Tempe to Pay \$70,000 Penalty to Resolve Violations of State Hazardous Waste Statutes

✦ ADEQ and Arizona Attorney General's Office announced recently that Clin-Path Diagnostics, LLC of Tempe will pay a \$70,000 penalty as part of a consent judgment entered in Maricopa County Superior Court for hazardous waste violations at its Tempe facility. The company, located at 2109 S. 48th Street, Suite 102, was cited for a total of 18 violations following an ADEQ inspection in August 2009.

The violations against Clin-Path included failure to comply with rules concerning emergency preparedness and prevention, not maintaining a proper contingency plan, failure to properly train employees handling hazardous waste, improper inspections of areas where hazardous waste is stored, and improper management of universal waste fluorescent lamps.

"Their unlawful management of hazardous waste put employees and the community at risk but the company has stepped up and improved the way it does business," ADEQ Director Henry Darwin said.

"We're glad to see that Clin-Path takes seriously its obligation to protect human health and the environment in Arizona by complying with Arizona's hazardous waste management statutes," Attorney General Tom Horne said. The consent judgment is subject to court approval.

Cathy Palasz Joins Veolia ES Technical Solutions

✦ Cathy Palasz recently joined Veolia ES Technical Solutions, L.L.C. as Arizona Account Manager. Cathy is responsible for offering disposal options for hazardous and non-regulated waste throughout the State of Arizona for industrial and municipal customers. Veolia has more than 45 sales, services, treatment and disposal facilities throughout the U.S. Their offerings include converting waste to product, energy recovery (fuels blending), solvent recovery, incineration, stabilization/landfill, recycling mercury waste, lamps, and electronic waste. Cathy also serves as Treasurer of the Air & Waste Management Association.

Veolia ES maintains a website at www.veoliaES.com. Cathy can be contacted at 602-214-7663 or by email at cathy.palasz@veoliaes.co.



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Ninyo & Moore Celebrate 25 Years

❖ Ninyo & Moore Geotechnical and Environmental Sciences Consultants recently hosted an open house at their Phoenix office to celebrate its 25th anniversary. According to Ninyo & Moore, "The event was well attended by hundreds of valued clients who have helped to build Ninyo & Moore into the successful company it is today." The company opened its doors in Phoenix in July 1998 and since that time it has completed over 5,000 projects throughout the state of Arizona.

Ninyo & Moore is a geotechnical, environmental and construction materials testing consulting firm headquartered in San Diego, California. Since 1986, Ninyo & Moore has grown to include 14 office locations throughout the southwestern United States including Phoenix, Tucson and Prescott Valley, Arizona. Ninyo & Moore has nearly 400 employees companywide with over 80 employees working in Arizona.

Ninyo & Moore maintain a website at www.ninyoandmoore.com, and can be reached at 602-243-1600.

EPA Honors Maricopa County for Dust Handbook and Field Guide

❖ The Maricopa County Air Quality Department was recognized recently by the U.S. Environmental Protection Agency today as one of 12 recipients in the nation during the 11th Annual Clean Air Excellence Awards.

The award was presented in recognition of the Air Quality Department's development of a Dust Handbook and Field Guide to help the county's business and construction community to better understand and comply with Rule 310 – Controlling Fugitive Dust from Dust-Generating Operations. Over the course of several months, several department staff worked closely with stakeholders in a collaborative effort to develop a dust control handbook, explaining the dust control rules and how they apply to different activities.

EPA said the 11th annual Clean Air Excellence Award recipients include organizations from both the public and private sector who have demonstrated a commitment to creating new green infrastructure and jobs in the United States. Organizations also are being recognized for planning and education efforts that help citizens make better informed environmental decisions.

"EPA's history is marked by innovations that have made our communities cleaner, healthier and more prosperous. This year's Clean Air Excellence Award winners are continuing that tradition," EPA Administrator Lisa P. Jackson said. "From educating our families and inspiring them to take action to developing new environmental plans and strategies to creating cutting-edge clean air and transportation



Ninyo & Moore Celebrates 25th Anniversary

(Photo courtesy of Ninyo & Moore)

innovations, the winners of this award are helping to make our air cleaner and our communities more sustainable. They are proving that American ingenuity is more than a match for the challenges we face as we move toward cleaner air, healthier families and a stronger economy."

The awards program, established in 2000 at the recommendation of the Clean Air Act Advisory Committee, annually recognizes entries that reduce air pollution, demonstrate innovative models for others to follow, and offer sustainable outcomes.

8-HR Greenhouse Gases, Sustainability, and Renewable Energy Seminar

September 28, 2011

Registration deadline: September 21, 2011

ASU College of Technology & Innovation
Office of Environmental Technology

Agenda includes the following presentations:

- Arizona State University:** Greenhouse Gas (GHG) Science
- First Solar:** Carbon Impacts of Photovoltaic Energy Projects
- Intel:** LEED and Sustainability Efforts
- Maricopa County:** County Efforts on Sustainability and Green Building
- JBR Environmental:** BACT and Energy Efficiency Requirements for New Clean Air Permits
- Wells Fargo:** Valuation of Renewable Energy/Energy Efficiency in Commercial Buildings
- Dick & Fritsche Design Group:** Sustainable/Green Building Design
- APS:** Renewable Energy Programs
- DRW Home Performance Solutions:** Building Energy Auditing

For details, seminar fee, or to register:

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PING Inc., Facility Tour (11:30 MIN)

Rob Barnett and Matt Conway, of PING, Inc., explain to EMTV Guest Host Tom Curry how PING has reduced waste with its reuse and recycling programs. Tour the facility with our guests and see for yourself!



Meet the Director (13.48 MIN)

ADEQ Director Henry Darwin speaks with EMTV Guest Host Tom Curry in his first EMTV video. Director Darwin discusses both his background and his priorities for ADEQ.



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Cowtown AQ Monitoring Station (5:21 MIN)

Kale Walch, Deputy Director of Pinal County AQ Department, speaks with EMTV Host Edwin Ramos about PM10 air quality issues and the notorious "Cowtown" AQ Monitoring Station. Includes video of the Cowtown AQ Monitoring station.

Jason Bolen

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Sustainability and Sustainable Development

Nicholas R. Hild, PhD.

AN EV In Your Future?

Research results published in a Stanford Social Innovation Review paper by Harvard B-School professors, C.M. Christensen, S. Talukdar, R. Alton, and M. B. Horn, (*Picking Green Tech's Winners and Losers*, April 10, 2011), confirms what most sustainability advocates already know: "...unless clean tech follows well-established rules of innovation and commercialization, industry's promise to provide sustainable sources of energy will fail." Read that carefully because it is a reality that future alt-energy planners need to realize if we are ever to reduce our foreign oil dependence in real time.

The paper got me thinking about the critical question of how we motivate the masses to embrace sustainable energy—not just talk the talk—but, to actually seek out and use alternative energy systems in our daily lives. We all know that there are people who are motivated to seek and use alternative energy out of their concern for the environment. But, mostly these are small numbers of people who can afford to pay more for their energy, although they still want the government rebate for an ultimate financial payback.

The SSIR research further confirms what we also know: that the millions of *developed* world consumers we need to buy and use sustainable energy systems, will not do so in a timely enough way that our energy and environmental problems will be solved anytime soon.

The reality is, in the *developed* world, green technologies face the 'daunting challenge' of trying to prove themselves more affordable or better performing than the already-existing-technologies they are trying to replace. And, so far, that has "...only been possible through government subsidies that bridge the gap between actual cost and grid parity." And, when it comes to transportation alternatives, we are not seeing cost-competitive vehicles being offered and no support infrastructure is yet ready to "plug and play" for the alt-fuels or electric charger stations that will motivate the masses to 'buy green alt-fueled vehicles.

Thus, one of the fundamental rules of successfully implementing sustainable energy technologies that must be followed in order for the masses to embrace *any* alternative energy (replacement) technology for a technology already affordable and widely available is that "...the new technology needs to be cost-competitive and easily integrated into the existing support infrastructure," *without* requiring significant lifestyle changes.

Consider applying that rule to alternate energy transportation vehicles available right now. What we see is that hybrid and electric powered cars cannot compete with the vehicles

they are trying to 'replace.' Take electric vehicles (EVs) for example: the Stanford paper points out, "...EVs contain limitations that will prevent them from winning in head-on competition with traditional vehicles... to compete, they must be either less expensive or better performing and the EVs offered today are neither."

Further, besides costing more, the performance limitations of today's EVs are not easily overcome because battery technology caps an EV's range at 100 miles between charges and a full recharge takes eight to 12 hours. So, EVs can't be used for long trips, they are slow to accelerate, and won't meet the maximum 80 mph speed today's freeways typically demand. With all these limitations, it is unlikely today's EVs will ever be embraced by any meaningful percentage of the driving public until long after we have increased our carbon levels in the atmosphere beyond the tipping point.

But here's what all this means to me. As a self-avowed 'car enthusiast' who has experienced pangs of guilt for loving the internal combustion powered, fossil-fueled, carbon-spewing behemoths of the last century—having owned at least one 'classic' car or truck from each decade 1920 through 2000—it is my *professional* duty to search out the best methodology to bring today's driving public into the *green* decades of this millennium by finding ways to entice them to purchase the new hybrid. Or, better yet, as clarified here, buy an *electric* vehicle.

So, after taking an unofficial straw-poll of my fellow-car-enthusiasts (OK, it was a sample of only a dozen or so, Mustang car owners at a rally in Scottsdale), the results were a unanimous 'thumbs-down' on *ever* owning an electric vehicle! But, here is where the Stanford research presented a solution, or as I like to think of it: a *motivation* for my fellow car-buffs to own a *cost-competitive* commuter Electric Vehicle (EV).

Clearly, and as this research shows, today's EV offerings won't ever replace their better performing and cheaper-to-own fossil-fueled competition. *BUT*, if an EV can be built to meet the needs of limited mileage users, small, compact, and *CHEAP*, it *WILL* find its own niche market. Although this paper only targets the parents of teenagers who want a limited use vehicle that is *NOT* freeway-friendly with a limited mileage cap, cheap to buy and cheap to own.

And, this basic commuter EV works perfectly for meeting their driving rules! That niche market *WANTS* a vehicle that doesn't need batteries recharged in less than 10 hours and won't be found cruising the stop-light drags on weekend outings—yes, the perfect teenager's car! (Note to parents: you are on your own when it comes to convincing your teen that EVs are cool—the paper doesn't address the inhibiting *cool-factor*)

This got me to thinking that this little EV would also be perfect for my fellow 'car-enthusiasts' who have those same *commuter* needs as the teenagers. Of course, the (aesthetics) design might need some 'old-school' touches but with their testosterone-fed, mechanical/electrical car-buff genes zeroed in on their commuter, it is highly likely that those little EVs will challenge their 'gear-head' skills to find acceleration and other tricks to make their commuter just as much fun as they have now with their gas-guzzlers. Remember, these are the same V-8 guys who took that same challenge when that little gas-efficient, 6 cylinder, 1964 Mustang became the 'pony-car' of choice—a challenge that made that car and *Mustang Sally*, a best seller of the '60's decade.

So, adding that group of EV purchasers to the pool of teenager's parents is guaranteed to make the introduction of the new commuter EV a seminal event that turned the masses on to sustainable transportation, when this story is told 50 years from now by our children's, children's, children.

Nicholas R. Hild, PhD., Professor and Associate Chair, Department of Applied Sciences and Mathematics, Environmental Technology Management program, 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.



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