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# Environmental Management

PRACTICAL AND CURRENT INFORMATION FOR ENVIRONMENTAL, HEALTH AND SAFETY PROFESSIONALS

ARIZONA

**From the Editor:**  
**A Special Message**  
**From the Editor**  
**to All Readers PG 7**

APRIL / MAY 2017 Vol 15 No. 2

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# AIR QUALITY PERMIT

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***SAVE THE DATE!***  
**SEPT. 28, 2017**

The Arizona Environmental Strategic Alliance and Maricopa County Air Quality Department will present the Annual Air Quality Permit Compliance Assistance One-Day Seminar on Thursday, September 28th, 2017, in Phoenix, Arizona. We invite you to attend!

## **Who should attend?**

If your facility has an air quality permit in Maricopa County, or if you are a consultant working with a regulated source in Maricopa County, this seminar is for you! Seminar Speakers will include professionals with industry experience applicable to your situation, and experienced Maricopa County Air Quality Staff.

## **Agenda**

New This Year: The seminar presentations will include breakout sessions with topics appropriate for introductory level professionals and presentation topics suitable for highly experienced AQ professionals. Agenda details will be posted on our website. If you have specific topic areas you would like addressed, call the Alliance at 480-422-7392 or email us at jimthrush@cox.net.

## **Sponsorships Available**

Sponsorship opportunities will be available this year to interested organizations wishing to participate. For more information, contact the Alliance.

[WWW.AZALLIANCE.ORG](http://WWW.AZALLIANCE.ORG)



Sponsored by Maricopa County AQ Department and the  
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ARIZONA ENVIRONMENTAL STRATEGIC ALLIANCE HOSTS:

## STACK TEST SEMINAR

On May 25th, 2017, the Arizona Environmental Strategic Alliance held our first Stack Testing Seminar at Intel at the Ocotillo Facility in Chandler, Arizona. Over 61 registered attendees representing 32 organizations participated in the full-day seminar. An additional 15 participated from an out-of-state Intel location through the use of a Skype connection providing audio and PowerPoint access.

Craig McCurry (Intel), Alliance Chair and Seminar Moderator, opened the seminar with introductions and a welcome to guests. Morning sessions included Intel Stack Testing Requirements and Methods of Compliance, FTIR stack test basics and compliance test methods, FTIR detection limits, and FTIR lessons learned. Our lunch speaker was Attorney Mitch Klein (Snell & Wilmer) who spoke on EPA Policy Under the Trump Administration. Afternoon sessions, moderated by Geetha Shankar (Intel), included two panel discussions. The first, an "Industry Expert Panel" focusing on Trends in Compliance, with speakers Brian Benaway, Spectrum Environmental Solutions;

Mike Sherer, Trinity; Tim Higgs, CH2M; Curt Laush, Geosyntec Consultants; Robert Sandoval, INTEL; Mark Hajduk, APS. The second panel was "Keys to Successful Compliance Tests, with speakers Scott Treece, Maricopa County Air Quality Department; Kale Walch, Pinal County AQCD; Dustin Fitzpatrick, Pima County; and David Kim, ADEQ. For more information, visit [www.azalliance.org](http://www.azalliance.org).



"Keys to Successful Compliance" (Regulator) Panel



"Industry Experts" Panel

# EPA'S DECISION TO DELAY IMPLEMENTATION OF THE 2015 OZONE STANDARDS

US EPA recently released the following comments from leaders across the country and selected news quotations. (Source: epa.gov)

Trump Delays One Of The Most Expensive EPA Regulations Ever. "The Trump administration announced Tuesday evening it would delay the implementation of a smog rule that's been called one of the costliest clean air regulations ever." (The Daily Caller, 06/07/17)

Senate Majority Leader Mitch McConnell applauded Administrator Pruitt's decision, calling the standards an attack on middle-class families from the Obama Administration. "I applaud Administrator Scott Pruitt for his decision to delay this Obama Administration issued regulation, which was finalized in October 2015. This regulation was yet another attack on the Middle Class by the Obama Administration and was forced through despite significant concern from communities across the country. Today's postponement will give states and municipalities relief in the interim while EPA continues to review NAAQS levels." (Press Release, 06/06/17)

West Virginia Senator Shelley Moore Capito said state and local employers had insufficient time to comply with these standards. "State and local governments and employers across the country have had insufficient time to comply with the latest revisions to the ozone standards. I commend Administrator Pruitt and his staff at the EPA for acknowledging this reality and acting today to delay existing standards." (Press Release, 06/06/17)

Arizona Senator Jeff Flake said the EPA is working with Arizonans to protect the environment, instead of the previous administration's one-size-fits-all approach. "It's great to see the EPA working with Arizonans for a change. Nowhere are the flaws of previous administration's one-size-fits-all approach to regulating ozone more evident than in Arizona, a desert state where naturally-occurring ozone makes it impossible to meet the new federal mandate. While today's move buys Arizona much-needed time, I remain committed to advancing a solution that will provide permanent relief from this egregious and unworkable rule." (Press Release, 06/06/17)

Texas Attorney General Ken Paxton praised Administrator Pruitt for pausing this costly and ineffective rule, which will help the economy in Texas. "I am grateful for the leadership of EPA Administrator Pruitt in

courageously pausing the costly and ineffective Ozone Rule, and I'm hopeful that the one-year delay will provide time for the EPA to review the detrimental effects the Ozone Rule will have on the Texas economy." (Press Release, 06/06/17)

U.S. extends deadline for states to meet ozone pollution standard. "The U.S. Environmental Protection Agency said on Tuesday it was extending the deadline by one year for states to declare which areas do not meet the federal standard for ground-level ozone, a pollutant linked to several serious health conditions." (Reuters, 06/06/17)

EPA's Pruitt delays Obama-era smog rules for a year. "The Environmental Protection Agency announced Tuesday that it is giving states another year to meet strict rules for smog-forming ozone emissions set by the Obama administration, citing states' confusion over regulatory requirements and the need for the EPA to review the regulations. ... Pruitt also announced that he is establishing the Ozone Cooperative Compliance Task Force to develop the "additional flexibilities for states to comply with the ozone standard," the agency said. Congress gave EPA the authority to create the task force under the recently passed fiscal 2017 spending bill." (The Washington Examiner, 06/06/17)

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## SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT

Nicholas R. Hild, PhD.

### GREEN FEES: THE NATION'S INFRASTRUCTURE

In the last issue of the Journal, I proposed a plan to spend the trillion dollars our President said in his Joint Address to Congress in February he would utilize to rebuild our nation's infrastructure. At that time, the President gave no plan details, so, to flesh out a plan that meets bipartisan goals, I am suggesting that we first need to take a page from President Roosevelt's successful Public Works Administration (PWA) program circa 1933-1939, then known as part of his '*New Deal*.' A major part of the 'New Deal' plan was aimed at putting people back to work on public infrastructure programs, many of which have now fallen into disrepair and need to be included in the infrastructure reconstruction plan outlined here. And that's why the PWA is such a good model for our plan.

During its existence, the PWA spent more than \$4 billion (*in 1930's dollars!*) constructing more than 70 percent of the nation's new educational buildings, 65 percent of the nation's courthouses, city halls, and sewage-disposal plants, 35 percent of its new public-health facilities, and 10 percent of all new roads, bridges, and subways in existence at that time. (*Bureau of Labor Statistics; jstor.org*). That now 80+ year old infrastructure today needs to be brought into the digital age in addition to reconstructing what decaying physical and electrical infrastructure is already there. So, a trillion dollars in today's dollars may not be equivalent to Four Billion dollars in 1930's dollars but it will go a long way if we embrace a new PWI plan that generates the funds to support the program into the next decade. And, that is what I am proposing.

The first step, as it was with the PWA program, is to design and implement a training program to train a large work force in a way that they will have the skills necessary to be productive workers for the contractors who will design, build, and reconstruct our vast network of public infrastructure 'systems'--- a task that will require converting and repurposing many of our closed military bases--- into training centers in various locations all across the country.

To actually carry out the plan will take a lot of heavy equipment and, fortunately, this comes at a time when, according to the Government Accounting Office, there is a lot of surplus military heavy construction equipment the military wants to find a home for, now that we no longer are sending it to the middle east to build bases and infrastructure. And, it is exactly the type of equipment that can be utilized for both training and actual infrastructure construction which would make it possible that training programs at those idle and vacant military facilities could be set up where men and women could be housed and trained in '*basic (infrastructure) construction*' and '*advanced skills*' specialties that utilize new digital technologies for infrastructure, over a period of weeks or months. There are already heavy equipment operators and skilled active duty military personnel who specialize in road and airstrip (concrete)

and bridge construction who could become 'temporary duty' instructors at the training sites. Plus, there are numerous large private construction engineering companies that specialize in civilian infrastructure design/build who would bid on training contracts to augment any areas where the military were unable to meet a particular specialty need.

The repurposed military bases themselves can be remodeled, in part, by the trainees as part of their 'hands-on' training, to take advantage of the previous on-site military accoutrements including kitchens and mess halls, barracks, dormitories and housing, laundry and clothing (work uniforms if necessary). And training on surplus military heavy equipment (dozers, road graders, ditch diggers, heavy dump trucks, skip loaders, water wagons; etc.) from military sources that would be transferred to the newly formed Public Works Infrastructure Department (PWI: a spin-off of the old PWA acronym?)---contractor companies that would be operational across the U.S.--- and bid on government contracts to provide the instructors and training at each facility.

And, this brings us to the real conundrum of rebuilding the nation's infrastructure: money. *Where will the money come from to pay for all this?* During the Obama administration's efforts to address the nation's infrastructure problems, they proposed increasing the national gasoline tax by a penny or two a gallon to pay for it but Republicans declared that to be a non-starter---the tax has been 18.4 cents since 1993 and their '*no-new tax*' mantra means it's unlikely to change any time soon in the GOP-controlled congress....*unless*, we (i.e. Congress) are clever in how we vet such a tax. Even the six-year highway bill that the former Obama administration Senate Environment and Public Works committee approved for a July 31, 2017 implementation is still in search of funding because it was to be paid for with new taxes that Republicans balked at. So any kind of new "tax" that purports to relate to infrastructure is going to need very unique and creative ministrations to effect a positive outcome, even *if* the President wants it to happen.

But, here's the best reason to revisit the gas tax funding plan: this plan puts large numbers of people back to work, both military and non-vets plus a lot of chronically homeless people who genuinely want to work along with thousands of people who have been unemployed for many years. That was one of the major goals of Roosevelt's PWA program and it has been this President's mantra for months: jobs, jobs, jobs. It should be a part of this plan, too.

So, finding the monies to solve the myriad of different economic and critical infrastructure problems would seem to be a bipartisan win-win for our congressional leaders, even if it means calling a fuel "tax" something politically acceptable (like a temporary infrastructure fee or a '*green fee on fuel*' that has a ten year sunset date of 2027 or whenever). Congress has been known to concoct all sorts of funding schemes that they have finagled for their pet projects in the past. So, why not for this infrastructure plan? And more people with jobs means more people driving to work and buying fuel on a daily basis---generating a trillion dollars in less time than it normally takes Congress to pass legislation.

With the President saying he wants a bipartisan plan to rebuild our infrastructure, here's an opportunity for Congress to show the public they really can reach across the aisle and do something that benefits all Americans: unemployed veterans and non-veterans alike, able-bodied unemployed people who want to work, and local communities with small businesses that surround the repurposed military bases. Also, just think about all the spin-off-trickle-down dollars that will flow to other businesses that provide infrastructure materials (i.e. steel, aluminum, piping, electrical and mechanical equipment....the list goes on) for the actual infrastructure rebuild as well as base (realignment) reconstruction and training efforts.

The time is now and there is no better reason for you to embrace this bipartisan infrastructure plan, than: do it for our children's, children's, children.

Nicholas R. Hild, PhD., is an Emeritus Professor and Sustainability Scientist in the College of Technology and Innovation and the founder of the Environmental Technology Management program at Arizona State University. Dr. Hild has extensive industrial environmental engineering and management experience as well as continuing to be a consulting environmental engineer for the past 40+ years. Reach him at [www.worldsleadingexpert.com](http://www.worldsleadingexpert.com) or email at [drnick@asu.edu](mailto:drnick@asu.edu).

## FROM THE EDITOR



**H**as the Journal of Environmental Management Arizona reached an end?

The Journal is now in our 15th year of publication, and I have always very much enjoyed publishing it -- especially working with the readers, authors, contributors, organizations, and advertisers. However, recently I have been considering whether we should close the Journal, or move forward into another year of publication.

The primary, and most immediate, argument for closing down the Journal is that it has become increasingly difficult to balance rising expenses against declining revenues. A secondary argument for closing down the Journal is that technology and the needs of the environmental community have changed over the years. Perhaps there is less need now for hard-copy written information, since the internet provides, and has for many years, easy and rapid access to a world of technical information.

On the other hand, there are arguments in favor of continuing publication. The Journal is a hard-copy, physical item that is delivered (at no cost to subscribers) to the desks of environmental, health & safety professionals throughout Arizona on a regular, bi-monthly, schedule. If you want to get a message to this community, publishing in the Journal is an excellent way to be sure that your article or advertising message will be seen.

Each of you, as a reader, author, contributor, or an advertiser, has played an important part in the Journal. So, before making a final decision in the upcoming weeks, I welcome your thoughts, comments, input. Please feel free to write, email, or call.

**Should I continue to publish the Journal of Environmental Management Arizona, or has it reached an end?**

I will take any comments I receive on this into consideration, and then announce a decision in the upcoming issue of the Journal (June/July 2017).

Thank you!

Sincerely,

Jim Thrush, M.S. Environmental Management  
Editor & Publisher 480-422-4430 x42  
Email: jimthrush@cox.net

### JOURNAL OF ENVIRONMENTAL MANAGEMENT ARIZONA

EDITORIAL Publisher & Editor: James Thrush, M.S. Env. Mgt., jimthrush@cox.net or 480-422-4430. SUBSCRIBE: ehshomepage.com or 480-422-4430. RATES FREE to qualified EH&S Professionals, others call. MAILING ADDRESS (NEW): JEMA, PO Box 51852, Phoenix, AZ 85076. ADVERTISING 480-422-4430 x42. Published 6 times/year. Copyright ©2013 by JEMA. All rights reserved. LEGAL DISCLAIMER Information presented in JEMA originates from sources presumed to be accurate and complete. Due to the rapidly changing nature of regulations and the law and our reliance on information provided by various sources, we make no warranty or guarantee concerning the accuracy or reliability of the content of JEMA. Readers are encouraged to contact authors, agencies, and advertisers directly for verification/clarification. Content for informational purposes only, and should not be considered legal or professional advice. Consult your legal counsel or environmental consultants for advice. WARNING Serious legal, environmental, and/or safety consequences can result from non-compliance with environmental and safety regulations and standard safety, environmental, and professional practices.

COVER PHOTO: GATEKEEPER REGULATORY ROUNDUP PLANNING COMMITTEE MEMBERS, ON MARCH 16, 2017. PHOTOGRAPHER: JOURNAL STAFF.

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# JOURNAL OF Environmental Management ARIZONA

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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.



AZ.ASSE.ORG

What an amazing year it has been for the Arizona ASSE Chapter. The Arizona and Southern Arizona chapters consist of a great team of over 700 safety professionals with diverse skill sets, lots of passion and incredible resources. Please log on to our website at [az.asse.org](http://az.asse.org) to learn more. I would like to thank all of those that made this year possible, especially: Wayne of Insure Compliance, Michael of Gateway Community College, Melissa of Four Peaks Brewery, Kurt of American Technologies Inc., Stephanie of CopperPoint Insurance, Tim at SafeStart, Mary at Farmers' Insurance, Brandon of Coca-Cola and many others. Without you this year would not have been possible.

I would also like to thank our partners, including: ADOSH, AIHA, EPAZ and ASU. If you are looking for any support with your safety programs I encourage everyone to look to these leaders and their organizations for all of your safety, risk and loss prevention needs. Everyone have a safe and healthy Summer!

Marc Tomeoni  
President



WWW.SESHA.ORG

The 39th annual International High Technology ESH Symposium & Exhibition was held on April 17-21, 2017 at the Embassy Suites by Hilton Scottsdale Resort. The number of attendees and exhibitor participation was the best we've seen in a decade! Thank you to those who attended and for making the symposium a success.

The local Arizona chapter will be hosting a mini-conference later this year, which will include several environmental, health and safety presentations pertaining to the semiconductor industry. The date and conference details will be announced in the next issue of the Journal.

You may follow us on Twitter @SESHATweets, like us on Facebook, and connect with our LinkedIn group for updates and current information on upcoming events and the association.

Jesse Gonzalez  
AZ Chapter President



WWW.AWMA-GCS.ORG

I've just had the opportunity to attend my first A&WMA Annual Conference & Exhibition (ACE) in Pittsburgh, PA. It's been quite an experience to attend, there are hundreds of technical presentations in topics ranging from control technologies, modeling, health effects, regulation and transportation. I've also had the opportunity to meet environmental professionals from all over the world in academia, industry, and government. There are also classes available for individuals newer to the field. Next year's ACE will be in Hartford, Connecticut on June 25-28, 2018. You'll be able to find more information

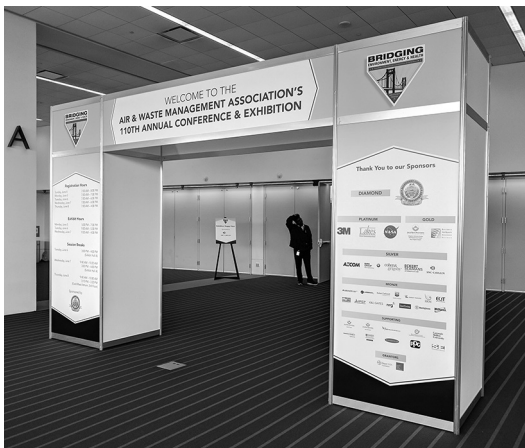
on our parent organization's website, [www.awma.org](http://www.awma.org), as it approaches. Even though Hartford quite a trip from Phoenix, I would highly recommend it.

For our April meeting, we hosted Colleen McKaughan from US EPA's Region 9 office. Colleen gave an excellent presentation summarizing Arizona air quality and the incredible progress made in improving air quality over the last few decades, as well as a peek into the future. Colleen has been with EPA since 1984 and will be retiring this summer. We greatly appreciate her perspective and she will be missed. A copy of her presentation is available on our website.

We have also had a few new board members come on in the past few months, and I would like to recognize them. Eric Massey, of APS, and formerly Air Director of ADEQ, is our new Vice-Chair, and Michelle DeBlasi, of Fennemore Craig, and Suzanne Kennedy, of Geosyntec will be joining as board members. Volunteering for the board is a great way to get to know your fellow environmental professionals and be active in our community.

Our future monthly meetings will be posted on our website at [www.awma-gcs.org](http://www.awma-gcs.org).

Mike Sonenberg, PE  
Chair



ARIZONA  
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AZALLIANCE.ORG

The Alliance hosted our first Stack Test Air Quality Seminar on May 25th at the INTEL Ocotillo facility in Chandler, AZ. The seminar was offered in part to fill a need expressed by regulators and industry professionals to provide state-of-the-art information and share industry technical experience in the use of FTIR (Fourier Transform Infrared Spectroscopy) for stack testing, as well as offer attendees a chance to share experiences and ask questions of both industry and regulatory air quality testing experts. Over 61 registered attendees, representing 32 organizations, attended. For more information on this seminar, including links to speaker PowerPoints, visit the Alliance website. (Also, see related article in this issue, pg 13).

UPCOMING: The Alliance and Maricopa County Air Quality Department will present the annual Maricopa County Air Quality Permit Compliance Assistance Seminar in Phoenix on September 28th, 2017. Mark your calendar! More details will be provided in the next issue of the Journal. (See advertisement on pg 3). The Alliance is also considering hosting a seminar on the topic of Sustainability later this year. Your input and suggestions are welcome.

Consider becoming an Alliance Member! Our organization is a public/private partnership that works toward environmental improvement that goes beyond regulatory mandates. For information visit our website or call us at 480-422-7392.

Craig McCurry  
Chair



WWW.SAEMS.ORG

On May 11, SAEMS was at the helm of another hugely successful RCRA seminar. It was widely attended by members of the environmental management community. The attendees heard from another great slate of speakers. On behalf of committee and SAEMS, thank you to all involved.

SAEMS also gave out a record amount of scholarships this year. There were so many worthy candidates who made the judges' decisions very difficult.

Luncheon meetings saw Mary Darling of Darling Geomatics tell us all about 3D Laser Scanning and High Definition Surveying and we also heard from Shawn Calendine of hydroGEO-PHYSICS who gave us a history lesson about the Hanford Site.

Please visit us at [www.SAEMS.org](http://www.SAEMS.org) for information and upcoming events.

Mike McGovern  
President





WWW.EPAZ.ORG

To kick off the summer our June luncheon featured Jesse Gonzalez from Trinity Consultants with an "Overview of Toxic Release Inventory (TRI) and Updates for 2016 Reporting Year". This summer EPAZ members will be electing a new Board of Directors which will be installed at our September meeting. Keep your eyes out for an invitation to vote.

#### UPCOMING EVENTS:

July, 2017 – No meeting will be held.

August 11, 2017 our luncheon topic and speakers are being confirmed, but our tentative topic is ADEQ Updates. Please check our website for the most current information.

EPAZ hosts monthly luncheon meetings on the second Thursday of the month from 11:30 AM to 1:00 PM at the SRP PERA Club. For the most up to date information, event details and reservations please visit our website at [www.epaz.org](http://www.epaz.org).

Lisa Culbert  
Association  
Manager



THE JOURNAL OF ENVIRONMENTAL MANAGEMENT ARIZONA

## SPECIAL MESSAGE TO ALL READERS

THERE IS A SPECIAL MESSAGE IN THIS ISSUE  
FROM THE PUBLISHER & EDITOR TO ALL  
READERS, CONTRIBUTORS, AND  
ADVERTISERS. PLEASE READ  
"FROM THE EDITOR" ON PAGE 7



ARIZONA  
FORWARD

ARIZONA FORWARD.ORG

#### GREEN. GREENER. GREENEST.

Arizona Forward has been showcasing environmental excellence in the region for almost 40 years, recognizing contributions to quality of life and raising the bar for future development.

We are thrilled to open all entries in Arizona Forward's Environmental Excellence Awards, presented by SRP, to projects statewide for the third year. We were urged by our brethren in Northern and Southern Arizona to expand

our awards program geographically and open all categories statewide on transitioning Valley Forward to Arizona Forward in 2013. It's a natural evolution for this iconic competition, which has grown significantly to become the largest and most prominent of its kind in Arizona.

Established in 1980, the awards recognize exemplary contributions to sustainability in eight broad-based categories. To demonstrate the power of collaboration, Arizona Forward joined forces with select public and private sector influencers to present joint categories including: Governor's Award for Arizona's Future, Vitalyst Health Foundation Award for Healthy Communities, Northern Arizona University Environmental Education &

Communication and the SRP Award for Environmental Stewardship. Other categories encompass: buildings and structures, energy and technology innovation, site development and art in public places.

This year's gala will be held on Sept. 23 at the Westin Kierland Resort. The program is open to the public but reservations are required.

Last year, Northern Arizona University's International Pavilion earned the coveted President's Award (Best of Show). Jurists praised the facility as among the greenest building of its kind in the world. Jurists selected the NAU International Pavilion as best of show because the iconic project is the university's first net-zero facility – it produces as much energy as it consumes on-site. By achieving Platinum LEED-NC status (U.S. Green Building Council's highest honor for its LEED program) combined with being net-zero, this building naturally responds to the imperatives of climate change.

First place Crescordia winners, awards of merit and even those submittals that do not make the finalist list, pay tribute to virtually all facets of how we live, work and play, ranging from green buildings and magnificent desert vistas to livable communities, innovative public art, sustainable technologies and environmental education.

Join us in celebrating projects that set the standard for achieving a balance between the built and natural environment in our state's physical, technical, social and aesthetic development.

Your presence among a gathering of the best and brightest minds in sustainability is encouraged. Join design professionals, property owners, municipalities, corporations, educators, artists, environmental consultants and others who eagerly seek the coveted first-place Crescordia in the Academy Awards the environmental community!

For more information, visit [arizonaforward.org](http://arizonaforward.org).

Diane Brossart  
President



# NEWS BRIEFS

## PASSAGE OF VOLUNTARY EMISSIONS BANK HB 2152 CREATES INCENTIVES FOR AZ'S BUS. ECONOMY AND IMPROVED AIR QUALITY LAWS/RULES

❖ Arizona Department of Environmental Quality officials recently thanked Governor Ducey for signing House Bill 2152, Emissions credits; voluntary emissions bank, into law, which provides both new and expanding Arizona businesses added opportunity in meeting mandatory federal Clean Air Act requirements to improve air quality, and may serve as a draw for new industries to locate to our state.

Prior to the passing of HB 2152, surplus emissions reductions deposits to Arizona's emissions bank, which can be purchased by new or expanding businesses to meet Clean Air Act permitting requirements, were accepted only from permitted industrial facilities (traditional sources). Surplus emissions reductions are generated when a company reduces its air emissions below legal limits.

Representative Russell Bowers, R-25, sponsor of the bill, said, "With the demands of the EPA pressing upon our unique desert environment and its ambient production of ozone constituents, we have not been able to find permit space for new industry needs for air permits. While I have concerns about intruding into mobile sources, this voluntary approach could prove a great benefit to industry growth in Arizona."

Enactment of this legislation expands the emissions bank to accept deposits from "non-traditional sources," such as reductions generated through electrification of vehicle fleets. Allowing deposits from non-traditional sources will significantly increase the number of credits that could be deposited. For example, Maricopa County reports that 86 percent of contaminants that contribute to ozone generation come from non-traditional sources, mostly vehicles. This bill provides both an economic and environmental opportunity because it supports business growth in Arizona and

incentivizes further air emissions reductions through a voluntary free-market sale process.

ADEQ Air Quality Division Director, Timothy S. Franquist, said, "The enactment of HB 2152 is consistent with Governor Ducey's vision for agencies to be actively looking for ways to increase economic growth in Arizona. The enhanced voluntary Arizona emissions bank achieves both economic and environmental benefits by allowing new types of emissions offset credits to be used." Franquist further explained that, "Arizona's model is not a 'cap and trade' regulatory structure used elsewhere in the country."

"These changes are a win-win for business and air quality," Maricopa County Board of Supervisors Chairman, Denny Barney, District 1, said. "The emissions bank allows the County to keep and attract desirable high-tech companies while working toward achieving air quality standards."

ADEQ and Maricopa County officials worked cooperatively with stakeholders throughout the legislative session to develop and refine key provisions of the bill as follows:

- Clarifies that the State does not receive any new authority to establish emissions limits for stationary or mobile sources, participation in the emissions bank is voluntary and credits do not expire
- Prohibits banked credit sweeps by ADEQ or any other entity
- Allows non-traditional credits to be banked

## 2017 ENERGY STAR PARTNER OF THE YEAR AWARDS

❖ The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE) recently announced they are honoring 18 businesses and organizations from California, Arizona and Nevada for their commitment to saving energy, saving money, and protecting the environment through superior energy efficiency achievements.

### THE 2017 ENERGY STAR PARTNER OF THE YEAR Awardees include:

#### California:

KB Home; Delta Products Corporation; HCP, Inc.; CalPortland Company; CBRE Group, Inc.; Kilroy Realty Corporation; Maximum Energy Professionals; Energy Upgrade California; HP, Inc.

#### Arizona:

Arizona Public Service; AZ Energy Efficient Home; Best Energy Rating and Consulting, LLC; E3 Energy LLC; Fulton Homes; Mandalay Homes; Meritage Homes; Salt River Project Agricultural Improvement and Power District

#### Nevada:

Energy Inspectors Corporation

Across the country, EPA and DOE are honoring 143 businesses and organizations in 34 states and the District of Columbia for their superior energy efficiency achievements. In 2015 alone, ENERGY STAR and all of its partners saved American families and businesses \$34 billion on energy bills, while helping states achieve their air quality goals.

The awards will be presented in Washington, DC,

*Continued on next page*

at the Marriott Wardman Park Hotel on April 26. Anne Pramaggiore, ComEd President and CEO, will give the partner keynote presentation.

Read more about each award winner's achievements: [https://www.energystar.gov/about/2017\\_energystar\\_award\\_winners](https://www.energystar.gov/about/2017_energystar_award_winners)

ENERGY STAR has 16,000 partners working to protect the environment through greater energy efficiency, including manufacturers, retailers, public schools, hospitals, real estate companies, and home builders. Since 1992, ENERGY STAR and its partners have saved American families and businesses \$430 billion on their energy bills and 4.6 trillion kilowatt-hours of energy, while achieving broad emissions reductions—including 2.8 billion metric tons of greenhouse gas emissions.

#### **U.S. EPA ANNOUNCES \$900,000 IN BROWNFIELDS GRANTS TO PROMOTE ECONOMIC REDEVELOPMENT IN ARIZONA**

❖ The U.S. Environmental Protection Agency announced recently that the City of South Tucson will receive \$300,000 in federal grant funds for brownfield site revitalization efforts, and the White Mountain Apache Tribe Housing Authority will receive \$600,000 in cleanup grants. These grants are part of the \$56.8 million awarded nationally to 172 recipients to assess and clean up historically contaminated properties, also known as brownfields, to help local governments redevelop vacant and unused properties, transforming communities and local economies.

"EPA is committed to working with communities to redevelop Brownfields sites which have plagued their neighborhoods. EPA's Assessment and Cleanup grants target communities that are economically disadvantaged and include places where environmental cleanup and new jobs are most needed," said EPA Administrator Scott Pruitt. "These grants leverage considerable infrastructure and other investments, improving local economies and creating an environment where jobs can grow. I am very pleased the President's budget recognizes the importance of these grants by providing continued funding for this important program."

The City of South Tucson will use the \$300,000 grant award to support brownfield property assessments in three key commercial areas and along the El Paso and Southwestern Greenway. The city's economic development focus under this grant is the Central Business District and the Fourth and Sixth Avenue business corridors. These areas are currently home

*Continued on page 14*

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Larry Olson, PhD.

## IT'S ALL ABOUT CHEMISTRY

# ENVIRONMENT AND WAR

It is easy to imagine the environmental devastation that can result from war. Destruction of infrastructure for water, sewer and solid waste, loss of agricultural productivity, deforestation and loss of habitat, and mass displacement of populations are just some of the direct environmental impacts that we can point to over the last few decades in specific countries. But what about the opposite? Can shortsighted environmental policies actually result in a war?

The most devastating current conflict is the Syrian war. More than a quarter million Syrians have been killed since the war started in March 2011, more than 11 million have been forced from their homes, and 5 million have fled the country. The Syrian refugee crisis has resonated around the world and has affected elections, policies, and long standing alliances in countries far removed from its borders. It started with pro-democracy demonstrations following the Arab Spring in 2010, but has morphed into sectarian violence pitting the majority Sunni population vs the Shia Alawite sect of the ruling Bashar al-Assad party and a proxy war involving Russia, Iran, and Western countries. In the midst of this turmoil ISIS has flourished and become a worldwide threat.

No one claims that the Syrian war was caused by just bad environmental policy. But a recent article in the Proceedings of the National Academy of Sciences (Colin P. Kelley, et al (2015), PNAS, 112 (11), 3241) argues that human caused climate change and an unsustainable government policy designed to increase agricultural productivity contributed greatly to the circumstances that precipitated Syria's civil war.

Starting in the winter of 2006/7, Syria and the area of the Middle East called the Fertile Crescent experienced an historic 3 year drought – the greatest in the instrumental record. This drought followed closely upon a major 1990s multi-year drought and the authors argue that “the anthropogenic precipitation signal has already begun to emerge from the natural noise and that the recent drought had a significant anthropogenic component.”

But even if you doubt the Syrian drought resulted from human caused climate change, there is no question that the impact of the drought was exacerbated by a policy which started under President Hafez al-Assad (the father of current President Bashar al-Assad). In trying to coax more yield out of land that has been farmed for 12,000 years and gain support from his rural constituency, Assad instituted land redistribution, provided low interest loans for construction of wells and heavy subsidies for diesel fuels. But this changed the way agriculture had been practiced for millennia.

In the 1950s almost all agriculture in Syria that was not near major rivers was rain fed. The only wells were shallow and hand dug. Water was drawn manually and used only for domestic purposes. Groundwater was replenished with rainfall and the aquifer levels were stable. The introduction of diesel pumps in the 1960s and widespread access to electricity in the 1970s led to thousands of new and much deeper wells and greatly increased pumping rates. Irrigated lands dependent upon groundwater increased from 652,000 ha in 1985 to 1.4 million ha in 2005 (F. de Châtel, “*Mining the deep*”, Syria Today, pp-48-51, January 2010). Farmers were able to greatly increase their yields and make more money, but the massive over pumping dried up shallow wells and springs, and even caused the disappearance of the Khabour River in summer. In the hardest hit areas, groundwater levels dropped 50-100 meters between 1950 and 2000. Even in the face of evidence that groundwater resources were limited, the government continued to encourage groundwater dependent irrigation throughout the 1980s and 90s. In some areas, total water withdrawals reached 160% of renewable rates. Finally, in 2005 a new law was passed that required new wells to be licensed and improved irrigation techniques to be utilized. But the law was poorly enforced and had little impact.

This was the situation in 2006 when Syria's depleted groundwater resources made it unable to withstand a prolonged drought. The agricultural system in northeastern Syria, where 2/3 of Syria's agricultural output was located, essentially collapsed and small sized farmers and herders couldn't survive. More than 1.5 million rural Syrians migrated to urban areas. But they ended up in poorly organized areas, many of which were illegal settlements on the outskirts of cities that had already absorbed an estimated 1.2-1.5 million Iraqis who had fled their country between 2003 and 2007. Crime, unemployment, and poverty were rampant, schools and infrastructure non-existent, and the massive population shifts made these areas particularly vulnerable to civil unrest. Syria's urban population was 8.9 million in 2002 but 13.8 million at the end of 2010. The total population had grown from 4 million in 1950 to 22 million and now food was scarce, prices had doubled, and Assad had cut food subsidies even as the drought continued.

Syria's vulnerability to drought was greater than its neighbors Turkey and Iraq, in part due to climatic conditions but also due to government policies that promoted an unsustainable land use policy. The volatile mix of a collapsed agricultural system, massive population displacement and an unresponsive government contributed to making an initial brushfire of civil disobedience explode into the worst humanitarian crisis of this century.

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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](mailto:Larry.Olson@asu.edu).



Photo Courtesy of Pat Hartshorne, SAEMS

2017 ANNUAL SAEMS RCRA SEMINAR:

# THE RCRA FILES: COMPLIANCE IS OUT THERE

The Southern Arizona Environmental Management Society (SAEMS) hosted its 2017 Annual RCRA Seminar, “The RCRA Files: Compliance is Out There” on Thursday, May 11, 2017, at the Hilton Tucson East in Tucson, Arizona.

Attendees were welcomed by Mike McGovern, SAEMS President. Scheduled presentations included: RCRA Basics (Nora Atondo, Pima County Department of Environmental Quality); Local Emergency Planning Committee (LEPC) Updates (Courtney Bear, Pima County LEPC); Managing Medical and Universal Waste (Jeff Christensen, University of Arizona Risk Management Services); RCRA Law (Yvonne Young, Quarles & Brady); The Disposal Files: Different Hazardous Waste Disposal Scenarios (Jay Zandell, Environmental Response, Inc.); Waste Program Updates (Laura Malone, Arizona Department of Environmental Quality(ADEQ)); E-Waste Recycling (JB Shaw, ADEQ); Waste Minimization to Recycling Optimization (Steve Caldwell, GreenSheen); Hanford Nuclear Site (Shawn Calendine, HydroGEOPHYSICS); Waste Program Case Scenarios (Terry Bear, ADEQ); Getting Ready for the New RCRA Generator Improvement Rule (Brian Lindman, US Ecology). Attendees also had the opportunity to visit vendor booths and network with other environmental professionals.

See Mike McGovern’s SAEMS article on page 8 (*in the Association Pages Section*) for more information on the seminar, or visit SAEMS website at: [www.saems.org](http://www.saems.org).

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## NEWS BRIEFS

CONTINUED FROM PAGE 11

to blighted motels, gasoline stations and underutilized manufacturing facilities. EPA funding supports the city's goals to attract and retain new businesses and to increase access for pedestrians, cyclists and public transportation. The city will also conduct property assessments along the El Paso and Southwestern Greenway to expand and improve this 6-mile, multi-use trail connecting the cities of South Tucson and Tucson.

The White Mountain Apache Tribe Housing Authority will use EPA's \$600,000 grant to clean up contamination from illegal drug (methamphetamine) manufacturing and use in tribal housing units. Thirty-three households in the communities of Cibecue, Fort McNary and White River will benefit from the cleanup, returning safe, low-income housing to hundreds of tribal members. The White Mountain Apache Tribe will coordinate this cleanup effort with the Tribe's Environmental Protection Office as part of a long-term effort to resolve the tribal housing shortage resulting from

illegal drug manufacturing and use on the reservation. As part of this coordinated effort, grant funds will support community engagement, which will lay the foundation for addressing an additional 100+ homes in need of hazardous waste cleanup.

### OVERVIEW OF THE FUNDS BEING ANNOUNCED TODAY:

\$25 million to communities who are receiving assessment and cleanup funding for the first time

\$17.5 million of the assessment and cleanup funding will benefit small and rural communities with populations less than 10,000

Recipients will each receive approximately \$200,000 - \$600,000 in funding to work on individual sites or several sites within their community

These funds will provide communities with resources necessary to determine the extent of site contamination, remove environmental uncertainties and clean up contaminated properties where needed.

Studies have shown that residential property values near brownfields sites that are cleaned up increased between 5 and 15.2% within a 1.24-mile radius of that site. A study analyzing data near 48 brownfield sites shows that an estimated \$29 to \$97 million in additional tax revenue was generated for local governments in a single year after cleanup. This is two to seven times more than the \$12.4 million EPA contributed to those brownfields.

As of May 2017, more than 124,759 jobs and \$24 billion of public and private funding has been leveraged as a result of assessment grants and other EPA Brownfields grants. On average, \$16.11 was leveraged for each EPA Brownfields dollar and 8.5 jobs leveraged per \$100,000 of EPA Brownfields funds expended on assessment, cleanup, and revolving loan fund cooperative agreements.

View the list of the FY 2017 applicants selected for funding here: <https://www.epa.gov/brownfields/brownfields-list-fy17-grants-selected-funding>

More on EPA's Brownfields program: <https://epa.gov/brownfields>

More on successful Brownfields stories: <https://www.epa.gov/brownfields/brownfields-success-stories>

### ORGANIZATIONS ACROSS THE COUNTRY SEEK TO IMPROVE WATER INFRASTRUCTURE, GROW LOCAL ECONOMIES

❖ US EPA announced recently that organizations from across the country are seeking to partner with the U.S. Environmental Protection Agency to invest in their local economies and improve water infrastructure. EPA's Water Infrastructure Finance and Innovation Act (WIFIA) program received 'letters of interest' from prospective borrowers in communities across 19 states, an example of EPA's programs supporting President Trump's vision of investing in our nation's infrastructure.

"The infrastructure needs of our nation and communities are broader than just roads and bridges," said EPA Administrator Scott Pruitt. "Improvements are needed to address drinking and



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waste water infrastructure, and EPA's WIFIA program offers opportunities to provide credit assistance to spur innovative investments that address water infrastructure needs."

Established by the Water Infrastructure Finance and Innovation Act of 2014, the WIFIA program is a new federal loan and guarantee program at EPA that aims to accelerate investment in our nation's water by providing long-term, low-cost supplemental credit assistance for regionally and nationally significant projects.

WIFIA is funded at \$25 million by Congress for fiscal year 2017. This will allow for \$1.5 billion in loans, spurring \$3 billion in projects to repair, rehabilitate, and replace aging water treatment plants and pipe systems, and construct new infrastructure for desalination, water recycling, and drought mitigation. Combined with similar EPA programs, such as EPA's State Revolving Fund (SRF) loans, private equity, revenue, and municipal bonds, these projects could address over \$12 billion in infrastructure needs across the country.

EPA received over 40 letters of interest from prospective borrowers interested in developing local projects from cities, counties, towns and private businesses in: Arkansas, Arizona, California, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Maine, Maryland, Massachusetts, Mississippi, Missouri, Nebraska, Pennsylvania, Tennessee, Washington, and Wisconsin.

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EPA is currently evaluating project eligibility, credit worthiness, engineering feasibility, and alignment with WIFIA's statutory and regulatory criteria. Through this competitive process, EPA will select projects that it intends to fund and invite them to continue to the application process this summer.

For more information about the WIFIA program, visit: <https://www.epa.gov/wifia>.

## ■ 2017 July

No Meeting Will Be Held in July

## ■ 2017 August 11

**Luncheon Featuring:** Speaker: To Be Confirmed  
Tentative Topic: ADEQ Updates. (Check website for current information)  
Location: SRP Pera Club, 1 E. Continental Drive, Tempe, AZ

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