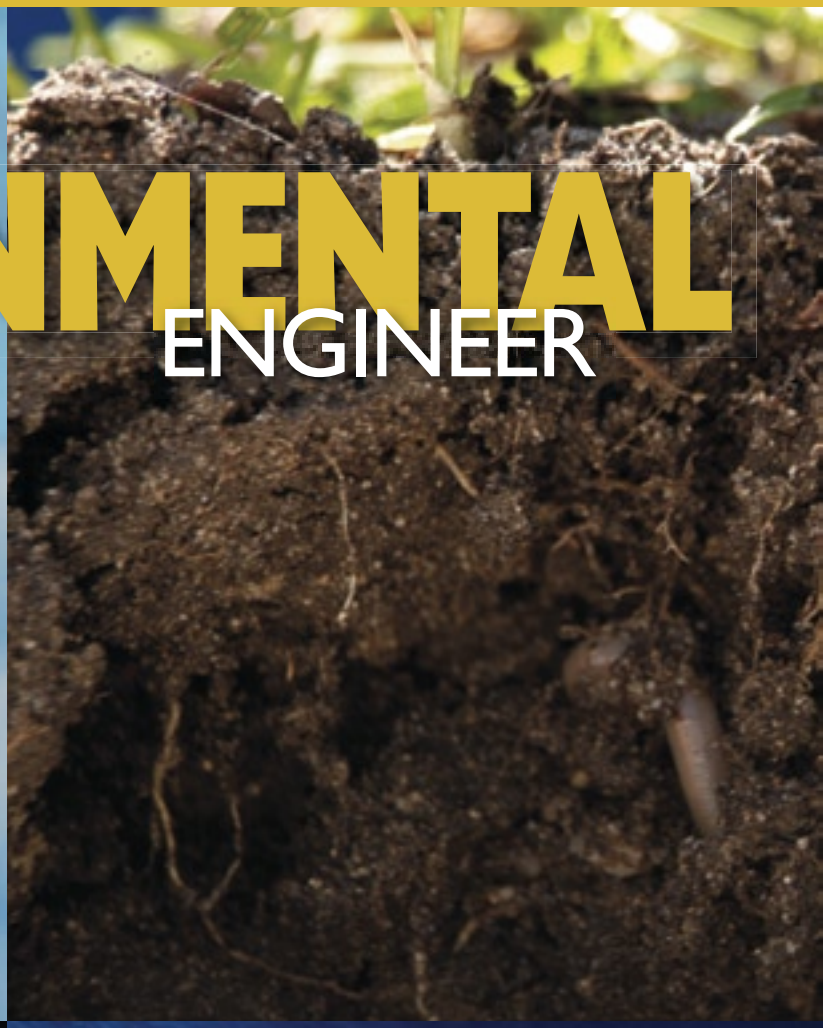
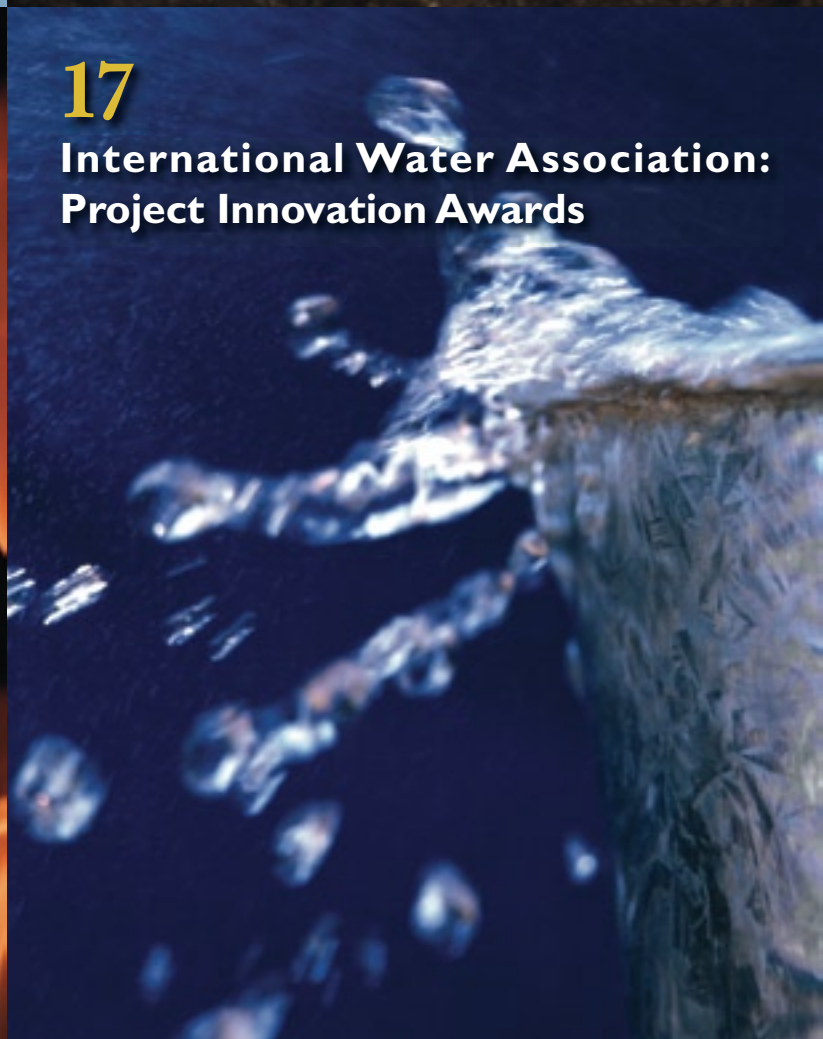
THE OFFICIAL QUARTERLY PERIODICAL OF THE AMERICAN ACADEMY OF ENVIRONMENTAL ENGINEERS®

ENVIRONMENTAL ENGINEER

VOLUME 44 NUMBER 4 — FALL 2008





ENVIRONMENTAL ENGINEER

BY WILLIAM P. DEE, P.E., BCEE

LEADERSHIP AND FOCUS IN TIMES OF UNCERTAINTY

We need to stay the course, and support the Academy to help achieve our strategic goals which will have a positive impact on us and the environmental professionals following in our footsteps.

AS I WRITE MY LAST ARTICLE FOR THE ***ENVIRONMENTAL ENGINEER*** AS PRESIDENT OF THE ACADEMY, we are all overwhelmed by the magnitude, the complexity, and the urgency of the current economic crisis in the Unites States and throughout the world. Those of us who have been around for a while remember the tough times during the early 1970's (long gas lines and the first energy crisis), the early 1980's (the high "misery" index consisting of double digit numbers for both inflation and interest rates), and the downturns in the early 1990's and after September 11th. None of these times were quite as stark and uncertain as what we are experiencing in the current crisis. We now have a new President-elect and his challenges are formidable. The confidence of the American people in our government, its elected officials, and our business leaders is at one of the lowest points in our history. Leadership for all companies and organizations needs to step forward and act with intelligence, insight, integrity, and decisiveness.

Should we all be concerned about our current state of affairs? - certainly. But this is not the time to lose our direction or emphasis on what is really important. As environmental professionals we have dedicated ourselves to protecting the environment, enhancing the image of our profession and having a positive impact on policy makers, educators, regulatory officials, and utility and industry leaders. Our professional organizations, including AAEE, have been focused on the most important issues facing the engineering community for most of the last century.

It may be a natural reaction to "pull in our horns" at this time of financial and economic uncertainty. Some organizations who employ our members may begin to consider whether they should cut back their support for professional organizations; some individuals may begin to think that they cannot continue to volunteer to help AAEE because of other demands on their time. In my opinion, these are decisions that would have a devastating impact on the important work that AAEE does, and the progress we have made over the past number of years. We have elevated our visibility in the technology, academic and utility business arenas. We are collaborating more closely with AEESP, IWA, and other organizations.

Our Strategic Plan initiatives are leading us with programs that will potentially influence more of our K-12 students to enter engineering fields. We are now recognized on the global stage with the IWA Project Innovation Awards competition as the role model of how to run a high end project recognition program. We are forming student chapters at various colleges and universities and our State Representatives are organizing under the leadership of Brian Flynn to determine how individual Diplomates and Members can have a positive influence on our profession at the state level. Rather than pull back, we need to stay the course, and support the Academy to help achieve our strategic goals which will have a positive impact on us and the environmental professionals following in our footsteps.

I encourage you to send in your AAEE renewal statement and fees as soon as possible. I also encourage you to volunteer for any of the AAEE committees that need your help to achieve their goals. When we come out of the current financial doldrums, we will all be pleased that we stayed true to our mission and core values and supported the Academy at this critical time.

ENVIRONMENTAL ENGINEER

The Quarterly Periodical of The American Academy of Environmental Engineers®

www.aaee.net

Offices
Environmental Engineer is published by the American Academy of Environmental Engineers®. Address all communications on editorial, business and other matters to:

Editor-in-Chief,
Environmental Engineer®
American Academy of
Environmental Engineers®
130 Holiday Court, Suite 100
Annapolis, Maryland 21401
410-266-3311

THE ENVIRONMENTAL ENGINEERING FOUNDATION WANTS YOUR GUIDANCE

The Environmental Engineering Foundation is soliciting ideas from AAEE members regarding future direction. The Foundation's current work is to administer the Frederick G. Pohland Award in coordination with the Association of Environmental Engineering and Science Professors. Where else should we be engaging our forces: Research? Education? The Future of Environmental Engineering? New Paradigms? Your comments and suggestions are welcome. Please send them to JCava @ aaee.net.

AAEE ANNUAL BOARD OF TRUSTEES MEETING

The 2008 AAEE Annual Board of Trustees was held on November 7 at the Renaissance Westchester Hotel in White Plains, New York. The meeting was well attended with much Academy business discussed. In addition to installing new Officers and Trustees and approving new Board Certified individuals, highlights also included:

- The Air & Waste Management was welcomed back as a Sponsoring Organization.
- The 2009 Budget was approved. Projections are that revenues will be $547,680 and expenses will be $543,320.
- An increase in PDH points for Vice/Deputy/Co-Chairs and State Representatives has been approved. They will now receive 7 PDHs per year.
- Appointment of a Task Force to research the Annual Professional Development Credit Reporting Forms and Continuing Professional Development Guidance.

MEMBERSHIP GROWTH

At the Annual Board of Trustee Meeting, a total of 103 new Board Certified individuals were approved. The ninety-eight (98) new Board Certified Environmental Engineers and five (5) new Board Certified Environmental Engineering Members will be listed in the Winter 2009 issue of *Environmental Engineer*.

Thanks to our members, word of mouth and personal encouragement still remain our best tools for recruitment. If you have a colleague who is not yet Board Certified, encourage them to apply for Specialty Certification. The next AAEE application cycle ends on March 31, 2009. Call Academy Headquarters for an application package.

NEW OFFICERS AND TRUSTEES

The Officers and Trustees for 2009 were installed during the Annual Board of Trustees Meeting and will take office starting January 1, 2009. They are:

President	**Debra R. Reinhart**
President-Elect	**Cecil Lue-Hing**
Vice President	**Brian P. Flynn**
Treasurer	**Howard B. LaFever**
Past President	**William P. Dee**
A&WMA Trustee	**Gary S. Gasperino**
APHA Trustee	**Edward Butts**
APWA Trustee	**Lamont W. Curtis**
ASCE Trustee	**Paul A. Bizier**
ASEE Trustee	**Jason C. Lynch**
ASME Trustee	**Richard S. Magee**
AWWA Trustee	**Steven J. Quail**
Trustee-at-Large	**Otis J. Sproul**
Trustee-at-Large	**Sandra L. Tripp**

❖ ***Continued on 24*** ❖

BY JOSEPH S. CAVARRETTA, CAE

DEAR MEMBERS AND STAKEHOLDERS

AAEE's goal for 2009 is to recruit 320 new members. That's almost a 300 percent jump over last year.

IT IS MY PRIVILEGE AND HONOR to serve as Executive Director of the American Academy of Environmental Engineers. As a certified association executive (CAE) with senior-level experience in trade, professional, and charitable associations, I promise my comprehensive, across-the-board commitment to AAEE and the field of environmental engineering.

Since starting October 1st, I have been getting acquainted with AAEE's operations, the "industry," and AAEE members and stakeholders. AAEE's congenial staff is professional, efficient, experienced, and dedicated to the members and the industry. Members routinely write in to express appreciation for AAEE's staff including Joyce, Pat, Yolanda, and Sammi. Of course, like great engineers, great staff need appropriate tools for their jobs, therefore, during 2009, we will be working diligently to upgrade the association's infrastructure (i.e., technology). Some of that work began early in 2008, but much remains to be accomplished. We will keep you informed on our progress, and we will seek your feedback.

My first encounter with Board Certified Environmental Engineers and Board Certified Environmental Engineer Members (Executive Committee excepted) was during October's WEFTEC Conference in Chicago. In all, 30 volunteers helped run AAEE's exhibit by handing out membership ribbons, answering questions, and recruiting new members. Several dozen more members stopped by to renew friendships, pick up their member ribbons, and introduce prospective new members to AAEE. One theme that reverberated every day was the magnitude of AAEE's 53-year historic role (our Mission Statement), which cannot be understated:

"The American Academy of Environmental Engineers is dedicated to excellence in the practice of environmental engineering to ensure the public health, safety, and welfare, and to enable humankind to co-exist in harmony with nature."

Beyond their unquestionable commitment to the Academy, members share many key values: For example, they enthusiastically discuss their practice; they have strong collegial bonds; they are upbeat; and they are lifelong learners in pursuit of excellence in environmental engineering. Those values are evident in the admirable work of AAEE's network of committees, state representatives, BOT liaisons, and other volunteers.

Through the BOT and our volunteers, AAEE created an aggressive five-year strategic plan which includes many goals. Among those goals are stronger office and technology operations; a better, more personalized Web site; new benefits and services; stronger ties with sponsoring organizations and other entities; increased public awareness; international growth; educational opportunities for children and students; and membership growth. Among those goals, membership growth is the Rosetta Stone--the key to success of any society of professionals.

AAEE's goal for 2009 is to recruit 320 new members. That's almost a 300 percent jump over last year. AAEE has a Membership Committee and a plan in place to reach this goal.

According to AAEE research, there are approximately 50,000 environmental engineers in the United States. BCEEs and BCEEMs comprise less than 5 percent. Clearly, we have not only an ***opportunity*** to grow but also a ***duty*** to grow in order to help agencies and organizations obtain the expertise they will need to meet the unique environmental challenges of tomorrow.

You can support AAEE's goals by encouraging one or two of your qualified colleagues to obtain certification. Just submit their names and contact information by email. We will get in touch and inform them of your recommendation. Your assistance will be appreciated, and your effort will be recognized.

As your new executive director, the door is always open to your questions, comments, and ideas. Please do not hesitate to call at 410.266.3311 or email: jcava@aaee.net.

I hope to see a surge of new certification applications. Here's wishing you the best for the holiday season and a Happy New Year.

Best personal regards,

Joseph S. Cavarretta, CAE

GLEN T. DAIGGER, P.HD., P.E., BCEE, was honored with the Eddy Wastewater Principles/Processes Medal from the Water Environment Federation (WEF). Dr. Daigger is currently Senior Vice President and Chief Technology Officer of CH2M Hill and has been certified in Water Supply and Wastewater Engineering since 1995.

PAUL L. FREEDMAN, P.E., BCEE, testified at the congressional hearing of the House Water Resources and Environmental Subcommittee of the House Transportation and Infrastructure Committee, which has jurisdiction the Clean Water Act (CWA), flood control and navigation-related responsibilities of the U.S. Army Corps of Engineers in addition to other water resources activities. As Vice President of WEF, Mr. Freedman was testifying on the organization's behalf. He is currently President of Limno Tech in Ann Arbor, Michigan, and has been certified in Water Supply and Wastewater Engineering since 1989.

GARY C. WRIGHT, MS, P.E., CIH, BCEE, has been named to the American Conference of Governmental Industrial Hygienists (ACGIH) 2009 Board of Directors and Nominating Committee. Mr. Wright, who is currently with the United States Air Force, has been certified in Industrial Hygiene since 2004.

IN MEMORIAM

JETT C. ARTHUR, JR., P.E., BCEE, of Metairie, Louisiana, passed away on August 31, 2008. Mr. Arthur was a Life Member and had been certified in Radiation Protection since 1971.

THOMAS R. OSTROM, PH.D., P.E., BCEE, of Bel Air, Maryland, has passed away. Dr. Ostrom had been certified in General Environmental Engineering since 1979.

E. STUART SAVAGE, P.E., BCEE, of Brunswick, Maine, passed away in March 2008. Mr. Savage was a Life member and had been certified in Water Supply and Wastewater Engineering since 1974.

2009 Application Cycle Ends March 31, 2009

Don't let your colleagues miss their chance to be part of the Academy's next class to become **a Board Certified Environmental Engineer or Board Certified Environmental Engineering Member**.

Encourage them to apply for Specialty Certification, showing the rest of the world that they are among the **Best of the Best**.

Completed applications must be submitted to the Academy offices no later than **March 31, 2009**. Call Academy Headquarters at 410-266-3311 for an application package.

Looking for a qualified employee? Seeking a position?

The Academy can help!

There is no charge for job seekers to post their resume, and recruiters can post available positions for a fee of $250/position for a 30-day listing. Check our website at **http://careers.aaee.net** for more details.

RED HOT DESIGN AND CONSTRUCTION: MARKETS BEGIN TO COOL

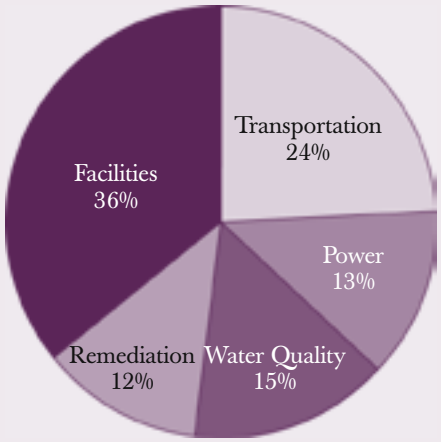
By Alan L. Farkas & Christopher S. Frangione

Design and construction markets related to environment, infrastructure, and facilities began to slow their rate of growth in 2007, and growth rates are expected to decline still further in 2008. Exhibit 1 shows the distribution of the infrastructure and environmental engineering market among the major market segments.

Designers for transportation, power, water quality, remediation, and facilities in the U.S. enjoyed, in aggregate, a robust growth rate of 12 percent in 2007, down slightly from the phenomenal 15 percent growth rate of 2006. The volatile power engineering market masked a more significant growth rate decline. Excluding power engineering, the aggregate growth rate of the remaining segments in 2007 were half that of 2006, declining from a 14 percent growth rate in 2006 to a 7 percent growth rate last year.

We forecast that the five infrastructure markets in aggregate will grow 5 percent in 2008 and 7 percent in 2009. We expect the current economic slowdown to affect all major markets, but the timing and significance will vary. The slowdown in growth coupled with the housing crisis, rising fuel prices, and the disruption in the municipal bond market will result in a slowing of growth in design markets related to transportation, water quality, and remediation. The slow rates of growth will be partially offset by the still rapidly growing design markets for power and non-residential facilities. Moreover, the U.S.-based design firms doing business abroad will continue to see more robust rates of growth from international projects. Longer term, infrastructure needs should bolster strong design and construction markets well into the next decade.

EXHIBIT 1
Distribution of the $42 Billion Design Market



Source: Farkas Berkowitz & Company
Based on ***ENR*** Top 500 Design Firm Survey for 2007

WATER QUALITY ENGINEERING AND CONSTRUCTION

We estimate the water quality engineering market grew 6 percent in 2007, breaking a string of at least eight consecutive years of annual growth at 10 percent or better. We forecast that growth will slow further to 3 percent this year and then return to double digit growth in 2009.

U.S. Census Bureau estimates construction on water and wastewater plants grew 6 percent in 2007 to $40 billion. These statistics include waste management facilities, as well.

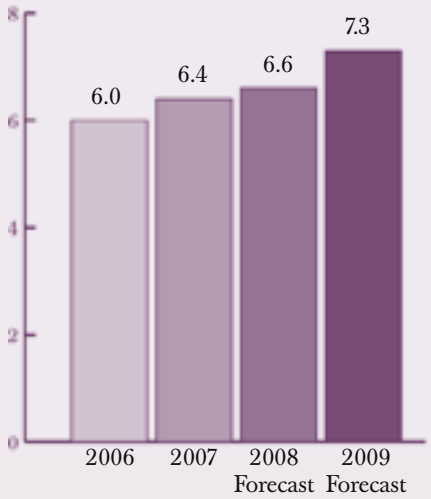
U.S. Census Bureau estimates construction on water and wastewater plants grew 6 percent in 2007 to $40 billion.

The first signs of a slowdown in the engineering market were seen in mid-2007. Project delays and cancellations have been seen in such Sunbelt states as Florida, Georgia, Arizona, Nevada, and New Mexico. As a result of the housing crisis, we saw population growth slow considerably in many of the fastest growing counties in the Sunbelt states. This rather abrupt slow down in population growth not only reduced the need for additional water and wastewater infrastructure, but also significantly impacted those public utilities that rely on hook-up fees as an important source of revenue to fund capital improvements. Recent disruptions in the municipal bond market could also be having a chilling effect on water infrastructure projects. The municipal bond market is still adjusting from concerns over the credibility of insurance that guarantees many municipal issues, and this adjustment combined with a large supply of bonds on the market helps to explain the relatively high interest rates that municipal bonds are currently fetching.

A slowdown in Sunbelt state population growth will also cause the water design-build market to reduce its phenomenal rate of growth from a better than 20 percent growth rate in 2007 to a 10 percent rate in 2008. The number of competitors for each design-build procurement is increasing as general contractors begin to flock to this attractive market and engineering firms increasingly gear up to play prime contractor roles.

EXHIBIT 2

U.S. Water Quality Engineering Market, 2006 - 2009



Source: Farkas Berkowitz & Company
Net Revenues, Actuals based on *ENR* Top 500 Design Firm Survey

WATER QUALITY PUBLIC-PRIVATE PARTNERSHIPS

Based on a survey recently reported by *Public Works Financing* magazine, we estimate that the water public-private partnership market

As a result of the housing crisis, we saw population growth slow considerably in many of the fastest growing counties in the Sunbelt states.

showed no growth, even in nominal dollars, in 2007. The number, average duration, and average annual contract value has declined steadily over the last five years.

Not surprisingly, major firms in the partnership market continue to diversify their services. For example United Water acquired a water tank services company, Utility Services Company, and OMI continues to emphasize comprehensive city services. Investment in the core business is growing. Increasing use of membrane technology for desalination and water reclamation could spur more design-build-operate projects and give contract operators some hope. The greater use of operationally sensitive membranes combined with the increasing financial burdens shouldered by public utilities could also cause more municipalities to look to private partners to operate their facilities.

REMEDIATION CONSULTING AND ENGINEERING

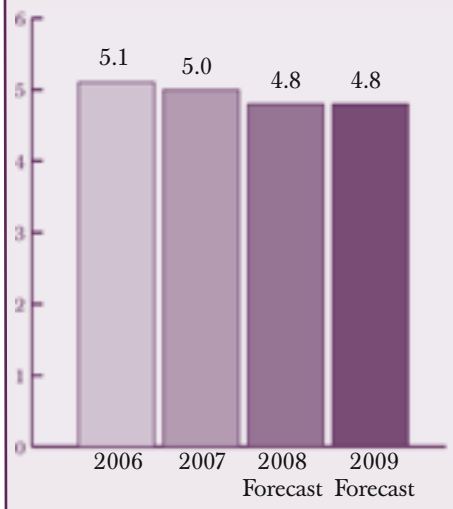
We estimate that the remediation consulting market declined 1-2 percent in 2007. Moreover, we forecast an additional five percent contraction this year and a flat market in 2009.

We found that, as in other markets, larger firms, with international projects, fared far better than those reliant on the domestic market. The top five firms in remediation consulting grew an average of 17 percent, counting revenue from both domestic and international projects, while those not in the top 15, saw their revenues contract by an average of 16 percent.

We expect a slower mergers and acquisitions market to reduce both due diligence studies and associated remediation projects in 2008 and 2009. During 2009, we will be transitioning to a new administration. Even if the White House remains in Republican hands, transition to a new president could slow decision making on remediation projects and cause a lull in the market. Those remediation consultants serving big oil clients and those with significant permitting practices for energy related projects should avoid seeing much of an impact from the current economic slowdown.

We found that, as in many other markets, larger firms with international projects, fared far better than those reliant on the domestic market.

EXHIBIT 4
Remediation Consulting and Engineering Market, 2006 - 2009



Source: Farkas Berkowitz & Company
Net Revenues, Actuals based on ***ENR*** Top 500 Design Firm Survey

Based on interviews with major remediation contractors to the Department of Defense (DOD), we estimate that the DOD remediation market contracted again in 2007 after shrinking in 2005 and 2006. Overall, many DOD remediation contractors saw revenues decline by as much as 50 percent during the three-year period. Most major contractors believe that the DOD remediation market is entering the end-game stage. The Army and Air Force are centralizing procurement in a manner that would appear to place a greater emphasis on price and a declining emphasis on past performance and strong client relationships.

EXHIBIT 3
Profile of New Water Public-Private Partnerships, 2002-2007

Year	Number	Average Duration (Years)	Average Annual Contract Value ($Millions)
2002	49	7.2	1.3
2003	50	5.8	1.1
2004	51	5.2	0.83
2005	48	5.4	0.97
2006	40	4.1	0.91
2007	26	5.2	0.89

Source: Farkas Berkowitz & Company
Based on survey conducted by ***Public Works Financing***

ABOUT THE AUTHOR

Farkas Berkowitz & Company is a management consulting firm serving companies that provide design, construction, and operational services relating to infrastructure, environmental protection, and facilities. Established in 1983, the firm assists clients with strategy, organizational development, and mergers and acquisitions. Inquires should be addressed to Chris Frangione at 202-833-7530 or frangione@farkasberkowitz.com or visit their website: www.farkasberkowitz.com.

Regional Meeting in Los Angeles Area Draws 120

In keeping with the Academy's Strategic Plan which calls for events and workshops to present timely topics facing the Environmental Engineering profession, an AAEE regional meeting was held September 25, 2008 on the topic of "The California Water Crisis and the Role of Reclaimed Water".

The speakers at the dinner meeting held at the headquarters of the Sanitation Districts of Los Angeles County were Jeffrey Kightlinger, General Manager of the Metropolitan Water District of Southern California, which provides the water supply for 19 million customers and Stephen Maguin, BCEE, Chief Engineer and General Manager of the Sanitation Districts of Los Angeles County, which serves over 5 million residents.

Mr. Kightlinger addressed the statewide water supply crisis caused by prolonged draught, court-ordered restrictions on the withdrawal of water from the San Joaquin/ Sacramento delta in northern California due to ecological impacts, and the looming impacts of climate change including the reduced ability to "store" water in the Sierra snow pack. Mr. Maguin addressed the contribution water recycling offers in reducing the use of potable water in the urban and agricultural environment through irrigation projects and the movement toward higher levels of treatment (microfiltration and reverse osmosis) to allow increased use of reclaimed water for groundwater recharge.

The event, besides providing an excellent discussion of a critical issue, created an opportunity to discuss the purpose and goals of the Academy with a large audience of professionals who are not associated with AAEE. Academy materials were made available at the event, and the 20 BCEEs in attendance were acknowledged. A drawing for free application and free exam fee (combined value $225) was conducted. Twenty-five people entered, and two very well qualified candidates were selected by random drawing. Similar events could be held elsewhere in the nation, and State Representatives and others who may wish to carry out similar functions are encouraged to contact Michael Selna, Trustee at Large, for details on how the event was planned (michaelselna@socal.rr.com) or Brian Flynn, Vice President, (bflynn4290@aol.com), who is heading a workgroup of State Representatives.

2008 APWA INTERNATIONAL PUBLIC WORKS CONGRESS
AMERICAN ACADEMY OF ENVIRONMENTAL ENGINEERS BREAKFAST

AUGUST 2008

HOLISTIC ENVIRONMENTAL SUSTAINABILITY: **THE NEXT FRONTIER**

George Crombie, Secretary
Vermont Agency of Natural Resources

I wish that I could announce to you this morning that I have solved our climate and energy crisis. Unfortunately I can't do that. What I hope I can leave you with today is a set of principles that will help you navigate what I believe will be the greatest challenge in the 21st Century, how we can live in harmony with our environment.

To begin to understand why we are talking about climate change and sustainability today, the teachings of Aristotle can help us focus. Aristotle made two important discoveries. His first discovery was that our natural environment was connected through a complex ecosystem where all parts of our ecosystem were connected together for a purpose. His second finding was that our ecosystem was continuously changing through earth, fire, air, and water. He demonstrated this by burning a block of wood. The wood came from the earth, water was extracted as the wood burnt, and fire changed the composition of the wood into gases.

The complexity of our natural environment is unequaled. Along with the human body, our environment is the most multifaceted system known to man. As I often tell my staff in Vermont, the environment would take care of itself if it wasn't for human beings. The environment has a tremendous capacity to evolve and keep itself in balance. However when human beings enter the equation and begin cutting into this natural fabric, with little or no understanding of their consequences, the environment changes in ways that distort natural processes and can be devastating to mankind's quality of life. Just imagine if a doctor cut into a human being without understanding how the whole body would react to that particular procedure? Yet across the world, we cut into the natural fabric of our environment every day without truly understanding the consequences and costs to present and future generations.

THE ENVIRONMENT HAS A TREMENDOUS CAPACITY TO EVOLVE AND KEEP ITSELF IN BALANCE.

Let's explore for a moment just a few of these unintended consequences.

- The burning of certain fuels and industrial processes that emit mercury are having a profound impact on fish and wildlife resources. We know that mercury coming from air emissions can travel thousands of miles before settling onto our land and water and impacting human health and habitat.
- The emissions of sulfur dioxide through smokestacks and transported to the Northeast has had an acute effect on the growth of trees. Airborne sulfur dioxide not only has a significant influence on the forestry industry economy, but those trees being destroyed are part of a natural process that removes CO_2 from the air.
- In some coastal areas, the destruction of natural barriers along our coastlines has allowed the full fury of hurricanes to attack developed areas, causing hardship to humans and loss of property.
- The redirection of water by limiting flow, channeling, or changing the salinity have disrupted ecosystems and destroyed fishing grounds. In Florida, we are spending billions of dollars to restore waterways that were manipulated with little thought to the impact to water quality and impact to habitat.
- Today we know that CO_2 levels are rising in our atmosphere and we are trying to figure out what its affect will have on our climate and to society. We know that the planet is warming up. According to documents published by the Pew Center, scientists have determined since thermometer records first began to be kept in 1860, 1995 to 2005 was the warmest decade ever recorded.

Since the 1980s, we have encountered more insurance claims due to natural disasters. We know that there have been more insurance claims in the past decade due to natural disasters. We know that in some parts of the country you can't get insurance to protect your property against hurricanes. We know that drought in the Southwest part of the country is causing devastating wildfires and millions in property damage. We know sea levels are rising. We know CO_2 in our atmosphere is increasing. Whether we believe in climate change or not, we know two principles:

1. When man cuts into the environmental fabric with little knowledge of the cost to the

environment, quality of life, and economy it can have severe consequences.

2. Through the teachings of Aristotle we know whether man-made or occurring naturally, our environment is changing constantly and we must understand how to adapt.

Based on what we already know from the impacts man has made to the environment and the natural evolution of our ecosystem, it would be foolhardy not to invest in finding a sustainable balance between us and our environment.

I would now like to spend some time discussing the challenges and opportunities in finding a sustainable balance with environment. Let me first begin with what I believe the challenges are, those being population, leadership, partnerships, international agreements, economics, technology, and quality of life/living in harmony with the environment.

POPULATION

As I stated earlier, the environment would be in good shape without human beings. But the reality is human beings are not going away for the foreseeable future. There are two overriding events that are driving the impact to the environment. The first is world population. In 1776, there were 1 billion people on the planet. By 1945, there were 2 billion inhabitants, and today, we are growing at the rate of 1 billion people every ten years.

The second dominant factor affecting our increased consumption habits is the unprecedented scientific and technological revolution that is taking place around the world. While advances in technology have given us the capacity to live in harmony with the environment, at the same time, this technology in the hands of those with little understanding of the importance of using technology in harmony with the environment, gives us the ability to destroy the environmental fabric with lightning speed and can destroy an ecosystem that will take decades to restore. An example of this was the use of CFCs in refrigerators without really understanding the effect to the ozone layer when this gas was released into the atmosphere. Advances in technology and populations growing like compound interest can be a lethal combination to destroying the environment without effective use of technology. Society must be willing to understand the tools required, and the leadership required that ensures a balance between a growing population and the environment to insure that both can co-exist in harmony.

> WE CUT INTO THE NATURAL FABRIC OF OUR ENVIRONMENT EVERY DAY WITHOUT TRULY UNDERSTANDING THE CONSEQUENCES.

ECONOMICS

Economics plays an unparalleled role in the influence it has on our environmental fabric. There are three major economic drivers impacting the environment. They are consumer wants, regulations and the ability to pay. Each plays a role in the behavior of society and impact to the environment. If the consumer wants green products and they can afford to pay for them, business will adjust at remarkable speed to accommodate this market in a free economy. Business will play a huge role in the future in the new green economy and in protecting the environment. We are seeing companies around the country gearing up to serve this new green market as we speak. Established companies know that green products are desired in the marketplace, and investing in renewable energy is not only good business practice, but is good for the environment. Don't underestimate the ability of business to protect the environment.

The second driver is regulations that provide for a level playing field. If a society is building without taking into consideration the value of the natural resources, the initial cost of the product will be cheaper in the short run; however, the damage to the environment and cost to future generations can be astronomical. Present economic models don't always consider long-term environmental damage in performing cost-benefit analysis. Today, we talk about the benefits of thermal energy, hydro, wind, solar and other renewable technologies to reduce our CO_2 footprint, yet we haven't figured out the economic model to transfer this technology into the hands of all citizens.

In the United States, the need for better national energy and environmental policy, has prompted states, businesses and communities to take the lead in attempting to create this new green economy. An example of this is the ten Northeast states that will be launching a cap-and-trade CO_2 program next month. Power plants have been given a limit to the amount of CO_2 they can release into the air, and that alloca-

tion will be reduced each year thereafter. The power producer must buy enough carbon credits each year through an auction to match their CO_2 allocation. Most states then will take these revenues and invest them in renewable energy programs.

LEADERSHIP

There is no public action that takes the place of grass-roots initiatives that bring about change. But without leadership at the top, it hinders the ability of thousands of individuals to focus on a particular goal.

Without John Kennedy setting the country's sights on getting to the moon or Franklin Roosevelt creating the Civilian Conservation Corps in the 1930s that provided the thousands of public works projects that we still benefit from today, these two goals might never have been achieved. Today, the leadership on sustainability and climate change is coming not from the federal government but the states and cities around the country along with business. These initiatives are being led by the likes of Governor Douglas of Vermont, Governor Schwarzenegger from California, Governor Richardson of New Mexico and Mayor Daley of Chicago. States are forming compacts to deal with climate change, and cities are creating green plans.

INTERNATIONAL AGREEMENTS

When it comes to the environment there are no boundaries. The CO_2 emitted into the air from far away lands has the same impact to our planet as the neighbor across the street disbursing CO_2 into the atmosphere.

Recently, I hosted a visit from Belarus. One of the questions that I was asked by these young aspiring scientists was whether or not the United States was going to be part of the Kyoto treaty or not? I indicated to them that I thought the United States would become part of an international greenhouse gas agreement in the not too distant future. Smiles came over their faces.

> THE UNITED STATES MUST BE A ROLE MODEL TO THE REST OF THE WORLD WHEN IT COMES TO PROTECTING THE ENVIRONMENT.

It is no secret to the rest of the world that the United States consumes about one-quarter of the world's oil. If we are going to be a world leader we must lead on the environmental front as well. Yes, there are risks that China or India will have unfair economic advantages if they fail to join international environmental treaties, but the risk to the environment if the United States does not take a leadership role could well be our demise on the international stage. The United States must be a role model to the rest of the world when it comes to protecting the environment.

PARTNERSHIPS

Creating this new green economy will require partnerships. We all have a comfort level in working with those in our own disciplines. Lawyers like to manage all aspects of a contract. Engineers are at ease managing design concepts. Scientists have their sense of the world. Economists are into cost-benefit analyses. Planners want to set the foundation and the list goes on. We all think, to one extent or another, we know how best to set the agenda. But like our ecosystem where all things are tied together, it is going to take multidisciplinary teams in the future to build the environmental models that protect our natural resources for future generations. Our greatest challenges will not be what we can do within our own disciplines, but what we can accomplish by working in multidisciplinary teams and other organizations.

As I speak, colleges and universities around the country are experimenting with this very concept. This doesn't mean that your individual emphasis of study is not important, but it will be important that you are exposed to technical, social, economic, and policy matters that impact the development of environmental programs you are involved in.

TECHNOLOGY AND THE NATURAL ENVIRONMENT

Technology will play a major role in protecting the environment for generations to come and I'm confident that businesses, venture capitalists, our universities and government investments, like the Department of Energy's research facility out in Golden, Colorado, will make major breakthroughs that will allow humans to live in harmony with nature. But advancements in technology alone will not solve our environmental challenges without the scientific and engineering community being willing to step to the plate in influencing the direction this country should take when it comes to long-term investments that will create sustainability.

There are risks in straight talk but our society and the world are in dire need of **your** expertise. Environmental profession-

als need to take this risk. I appreciate how hard it is for one individual or company to step forward due to personal or company conflicts, but the country needs you and wants your input. Public policy created without sound engineering and science delays the advancement of technology and the implementation of that technology to occur. Scientists and engineers must help this country to focus on the environmental improvements that will bring about real environmental benefit.

As an example, often times we are spending millions of dollars taking that last part-per-billion out of a wastewater treatment plant when we know that the real gains in the future in improving water quality will be in limiting watershed run-off or nonpoint sources. It will take leadership from the science and engineering community to stop spending needless resources tweaking existing environmental systems that are doing a good job, and taking those resources and reaching forward for bold, new initiatives that will make major progress in protecting the environment.

Associations such as the Academy, APWA, WEFTEC, AWWA, ASCE, and other national organizations need to partner together with environmental groups, businesses and others in forming the type of coalitions that can provide a profound impact on creating a national model for advancements in technology, and ensuring maximum environmental gains for the dollars invested are designed to benefit all Americans. In many ways, it is a moral obligation for all of us in the environmental profession to secure a sustainable environment for future generations.

QUALITY OF LIFE

There is little doubt that we are on the verge of an environmental revolution if we are going to improve the quality of life of all human beings. The transformation that we are about to go through will dwarf the advancements made during the space and computer age. Driving this conversion is a result of a more informed and educated public, high energy costs, advances in technology, good business, major disasters due to flooding, hurricanes, forest fires, drought, a realization that engineering and science will never outsmart the environment and a fear that we will destroy the planet for our children if we do not act now.

PUBLIC POLICY CREATED WITHOUT SOUND ENGINEERING AND SCIENCE DELAYS THE ADVANCEMENT OF TECHNOLOGY.

Before you act, you need to set your goals high and dream. Think of cars for those of all income levels that get sixty miles or more to an equivalent gallon of gas; think about homes for all income levels that have gold star energy efficiency ratings; that water resource planning will play a major role in future development patterns to ensure they are sustainable; food will be grown in sky scrapers in our major cities powered by algae; anaerobic digesters will be designed to compost bio solids; food wastes, and agricultural wastes that will produce energy; wood will be harvested from our forest in a responsible manner that will reduce forest fires and provide renewable fuel and build smart sustainable and energy-efficiency communities. Think about the billons of dollars that are now going overseas to pay for oil that could be reinvested in research, engineering, production of renewable energy systems and gaining our energy independence back; that every product that is purchased around the world is certified that it has been produced in an environmentally sound manner; and that before we cut into that environmental fabric, we will understand whether we are in harmony with the environment or not. Sound far-fetched? I don't think so.

There are too many indicators on our doorstep to believe that if our goal isn't to create a fair quality of life standard for all human beings that is in harmony with our environment, then there is little hope for a sustainable society for any of our children.

Let me now give you some ideas and thoughts on what this environmental revolution might look like over the next decade and what you can do to prepare for the new green economy.

- Do what you can as an individual and family to live a sustainable lifestyle. Your actions may seem small, but accumulated with others, they can have a major impact. Buy locally.
- A recognition that a new green economic model that takes into consideration environmental benefits may be painful at the beginning, but could bring about a whole new economy that would provide billions for research and implementation of new renewable energy systems.

❖ *Continued on 23* ❖

International Water Association
PROJECT INNOVATION AWARDS

The International Water Association (IWA) revealed the global winners of the Project Innovation Awards (PIA) competition on September 10, 2008. The ceremony was held at the Palais Ferstel in Vienna. AAEE President and IWA Chair of the Global Judging Panel, William P. Dee, P.E., BCEE, served as Master of Ceremonies for this international event.

The IWA Project Innovation Awards recognizes excellence and innovation in water engineering projects throughout the world. The program runs on a two-year cycle with the regional project awards presented in regional forums, and with the global project awards being delivered at the biennial IWA World Water Congress. The regional forums include Europe, East Asia & Pacific, and North America.

AAEE'S EXCELLENCE IN ENVIRONMENTAL ENGINEERING COMPETITION

The AAEE Excellence in Environmental Engineering (E3) Competition winners are automatically eligible for IWA award consideration.

Brown and Caldwell won the IWA Project Innovation Awards' top prize with their project, Columbus Biosolids Flow-Through Thermophilic Treatment (CBFT) Advanced Demonstration Preliminary Design Project, which was also awarded the 2007 E3 Grand Prize for Research.

Other E3 winners who were also award recipients in the international competition include:

- 2008 Grand Prize-University Research winner, Fungal Research Group, Iowa State University for Value-Added Products from Dry-Grind Corn Ethanol Stillage by Fungal Processing Introduction
- 2007 Superior Achievement Award winner, Donohue & Associates, Inc., for Innovation Biosolids Vitrification Facility
- 2008 Grand Prize-Design winner, CDM for Orange County Groundwater Replenishment System
- 2008 Grand Prize-Planning winner, Malcolm Pirnie, Inc., for Granular Activated Carbon Master Planning Project; and
- 2008 Grand Prize-Small Projects winner, CDM for Reuse for Industry, Agriculture & Landscaping.

A full list of winners follows starting on page 19.

KEY FEATURES OF IWA'S PROJECT INNOVATIONS AWARDS

The key features of the Project Innovation Awards includes:

- recognition of excellence and innovation in project conception and results
- focus on engineering and water
- building on national awards programs to create a set of regional and global awards; and
- web and email-based application and judging.

JUDGING AND CRITERIA

Projects are judged by an independent panel who assess each entry with respect to the following criteria:

1. Original of innovative application of new or existing technology
2. Future value to the water engineering profession
3. Social, economic, and sustainable design considerations.
4. The complexity of the problem or situation addressed.
5. Exceeding client/owner needs.

AWARD CATEGORIES

Project may be entered in the following categories

- Applied Research Projects
- Planning Projects
- Design Projects
- Operations/Management Projects
- Small Projects

ABOUT THE INTERNATIONAL WATER ASSOCIATION

The International Water Association (IWA) was formed in 1999 as a merger between The International Water Supply Association (IWSA) and the International Water Quality Association (IAWQ). IWSA was established in 1947 while IAWQ was originally formed as the International Association for Water Pollution Research in 1965.

The mission of this member-driven organization is to create and foster a global network of leading-edge water professionals via the provision of services and products to members through conferences, publications, support for member groups, and representing the views of members in international forums and projecting key messages to the sector at large to advance the best practice in sustainable water management.

IWA's current membership, which is comprised of Individual, Corporate, and Governing members in the fields of leading water professionals in science, research, technology and practice. There are nearly 10,000 individual and 400 corporate members spread across 130 countries.

For more information on the International Water Association, their membership program, and the Project Innovations Awards, visit their website at http://www.iwahq.org.

IWA President, Dr. David Garman, addresses those in attendance.

Brown and Caldwell were the Superior Achievement Global Award Winners for their project, Columbus Biosolids Flow-Through Thermophilic Treatment (CBFT) Advanced Demonstration Preliminary Design Project

2008 GLOBAL WINNERS

SUPERIOR ACHIEVEMENT & APPLIED RESEARCH GRAND PRIZE WINNER

ENTRANT: Brown and Caldwell
PROJECT NAME: Columbus Biosolids Flow-Through Thermophilic Treatment (CBFT) Advanced Demonstration Preliminary Design Project
LOCATION: Columbus, Georgia, USA
This project was also the 2007 Grand Prize winner for Research in AAEE's Excellence in Environmental Engineering Competition.

APPLIED RESEARCH GRAND HONOR AWARD

ENTRANT: Fungal Research Group, Iowa State University
PROJECT NAME: Value-Added Products from Dry-Grind Corn Ethanol Stillage by Fungal Processing Introduction
LOCATION: Ames, Iowa, USA
This project was also the 2008 Grand Prize winner for University Research in AAEE's Excellence in Environmental Engineering Competition.

DESIGN PROJECTS GRAND PRIZE WINNER

ENTRANT: Donohue & Associates
PROJECT NAME: Innovation Biosolids Vitrification Facility
LOCATION: Zion, Illinois, USA
This project was also the 2007 Superior Achievement Award winner in AAEE's Excellence in Environmental Engineering Competition.

DESIGN PROJECTS GRAND HONOR AWARD

ENTRANT: CDM
PROJECT NAME: Orange County Groundwater Replenishment System
LOCATION: Fountain Valley, California, USA
This project was also the 2008 Grand Prize winner for Design in AAEE's Excellence in Environmental Engineering Competition.

DESIGN PROJECTS GRAND HONOR AWARD

ENTRANT: Black & Veatch/Theiss Joint Venture
PROJECT NAME: Bundamba Advanced Water Treatment Plant State 1A
LOCATION: Australia

OPERATIONS/MANAGEMENT GRAND PRIZE WINNER

ENTRANT: DWAF, IMESA, and Emanti Management
PROJECT NAME: Towards Efficient Municipal Water Quality Management in South Africa
LOCATION: South Africa

GLOBAL OPERATIONS/MANAGEMENT GRAND HONOR AWARD

ENTRANT: Kogarah Council
PROJECT NAME: The Beverly Park Water Reclamation Plant Project
LOCATION: Australia

PLANNING PROJECTS GRAND PRIZE WINNER

ENTRANT: PUB Singapore
PROJECT NAME: Deep Tunnel Sewerage System
LOCATION: Singapore

PLANNING PROJECTS GRAND HONOR AWARD

ENTRANT: Malcolm Pirnie, Inc.
PROJECT NAME: Granular Activated Carbon Master Planning Project
LOCATION: Birmingham, Alabama, USA
This project was also the 2008 Grand Prize winner for Planning in AAEE's Excellence in Environmental Engineering Competition.

SMALL PROJECTS GRAND PRIZE WINNER

ENTRANT: Joe Brown and Mark Sobsey, University of North Carolina School of Public Health
PROJECT NAME: Ceramic Water Filters in Cambodia: A Sustainable Solution for Rural Drinking Water Treatment
LOCATION: Cambodia

SMALL PROJECTS GRAND HONOR AWARD

ENTRANT: CDM
PROJECT NAME: Reuse for Industry, Agriculture & Landscaping
LOCATION: Amman, Jordan
This project was also the 2008 Grand Prize winner for Small Projects in AAEE's Excellence in Environmental Engineering Competition.

Bill Dee, P.E., BCEE, President of AAEE, served as Master of Ceremonies for the event.

2008 REGIONAL WINNERS FOR EAST ASIA & PACIFIC

APPLIED RESEARCH WINNER
ENTRANT: Gold Coast Water; University of Queensland; Sydney Water Corporation
PROJECT NAME: Model Based Management for Hydrogen Sulfied in Sewers
LOCATION: Australia

APPLIED RESEARCH HONOR AWARD
ENTRANT: S. Vigneswaran, H.H. Ngo, and T.V. Nguyen, University of Technology, Sydney
PROJECT NAME: A Novel Iron Coasted Sponge Adsorption System to Remove Arsenic From Drink Water
LOCATION: Sydney, Australia

APPLIED RESEARCH HONOR AWARD
ENTRANT: Nanyang Technological University; Stanford University, PUB, Singapore
PROJECT NAME: TiO2 Nanostructured Microsphere for Membrane Fouling control and Improving Water Quality; A Pilot Plant Start-up at Chao Chu Kang Waterworks
LOCATION: Singapore

DESIGN PROJECTS WINNER
ENTRANT: Samsung Engineering Co. Ltd.
PROJECT NAME: 12 Sewage Treatment Plants B.T.O. Project
LOCATION: Yong-in City, Republic of Korea

DESIGN PROJECTS HONOR AWARD
ENTRANT: Southern Regional Water Pipeline Alliance
PROJECT NAME: Southern Regional Water Pipeline Alliance
LOCATION: Australia

DESIGN PROJECTS HONOR AWARD
ENTRANT: Black & Veatch/Theiss Joint Venture
PROJECT NAME: Bundamba Advanced Water Treatment Plant State 1A
LOCATION: Australia

OPERATIONS/MANAGEMENT WINNER
ENTRANT: Kogorah Council
PROJECT NAME: The Beverley Park Water Reclamation Plant Project
LOCATION: Australia

PLANNING PROJECTS WINNER
ENTRANT: PUB Singapore
PROJECT NAME: Deep Tunnel Sewerage System
LOCATION: Singapore

SMALL PROJECTS WINNER
ENTRANT: Joe Brown and Mark Sobsey, University of North Carolina School of Public Health
PROJECT NAME: Ceramic Water Filters in Cambodia: A Sustainable Solution for Rural Drinking Water Treatment
LOCATION: Cambodia

Paul Reiter, Executive Director of International Water Association

Bill Dee, P.E., BCEE, President of AAEE, and Paul Reiter, Executive Director of International Water Association

Award winners for the Europe Region (group photo):

APPLIED RESEARCH

Winner, Jointly Presented to Emschergenossenschaft Presented for EuWak – Natural Gas and Hydrogen from Waste Water Treatment Plants Bottrop, Germany

Honour Award, Presented to Lyonnaise des Eaux –SUEZ Group SATELEC – FAYAT Group Presented for MAGES Modele d'Aide a La Gestion des Effluents Du SIAAP Paris, France

Honour Award, presented to Bentley Systems, Incorporated & United Utilities Presented for Optimisation Method and Modelling Tool for Leakage Detection in Water Distribution Systems, Watertown, CT, United States & Warrington, United Kingdom

DESIGN PROJECTS

Winner, Presented to Grontmij Nederland bv, Presented for SHARON Garmerwolde Groningen, The Netherlands

OPERATIONS / MANAGEMENT

Winner, Presented to DWAF, IMESA and Emanti Management, presented for Towards Efficient Municipal Water Quality Management in South Africa

PLANNING PROJECTS

Winner, Presented to Dublin City Council & CDM, Presented for Water Framework Directive – River Basin Management, Ireland

SMALL PROJECTS

Winner, Presented to LINZ AG – Abwasser, Presented for Ecological Sanitation (EcoSan) Project solarCity Linz Austria

2008 REGIONAL WINNERS FOR EUROPE

APPLIED RESEARCH WINNER
ENTRANT: Emschergenossenschaft
PROJECT NAME: EuWak – Natural Gas and Hydrogen from Waste Water Treatment Plants
LOCATION: Bottrop, Germany

APPLIED RESEARCH HONOR AWARD
ENTRANT: Lyonnaise des Eaux – SUEZ Group, SATELEC – FAYAT Group
PROJECT NAME: MAGES – Modele d'Aide a La Gestion des Effluents Du SIAPP
LOCATION: Paris, France

APPLIED RESEARCH HONOR AWARD
ENTRANT: Bentley Systems, Incorporated & United Utilities
PROJECT NAME: Optimisation Method and Modelling Tool for Leakage Detection in Water Distribution Systems
LOCATION: Watertown, CT, USA and Warrington, United Kingdom

DESIGN PROJECTS WINNER
ENTRANT: Grontmij Nederland bv
PROJECT NAME: SHARON Garmerwolde
LOCATION: Groningen, The Netherlands

OPERATIONS/MANAGEMENT WINNER
ENTRANT: DWAF, IMESA and Emanti Management
PROJECT NAME: Towards Efficient Municipal Water Quality Management in South Africa
LOCATION: South Africa

PLANNING PROJECTS WINNER
ENTRANT: Dublin City Council & CDM
PROJECT NAME: Water Framework Directive – River Basin Management
LOCATION: Ireland

SMALL PROJECTS WINNER
ENTRANT: LINZ AG - Abwasser
PROJECT NAME: Ecological Sanitation (EcoSan) Project solarCity Linz
LOCATION: Austria

Malcolm Pirnie's 2008 E3 Grand Prize-Planning project, Granular Activated Carbon Master Planning Project, won for Global Planning Projects Grand Honor Award. Engineer-in-Charge for this project was Jason T. Carter, P.E.

President Dee looks on as John Willis, P.E., BCEE, accepts the Superior Achievement award on behalf of Brown and Caldwell for their project, Columbus Biosolids Flow-Through Thermophilic Treatment (CBFT) Advanced Demonstration Preliminary Design Project. Mr. Willis served as Engineer-in-Charge of the project that also won the 2007 Grand Prize-Research Award for AAEE's Excellence in Environmental Engineering Competition.

Holistic Environmental Sustainability: The Next Frontier

continued from page 16

The development of a cap-and-trade system that provides our free economy to consider pollution costs and allows business to decide what investments are needed in order to reduce pollution makes a lot of sense. Like all systems, how a cap-and-trade system is designed will be critical to its effectiveness in reducing pollution and spawning investment into technology and implementation.

Although the European Union has made a number of mistakes in creating their cap and trade system, I still believe the concept provides significant benefits to an emerging green economy.

If you want to learn more about cap-and-trade I would recommend going to http://www.pewclimate.org.

- There is great opportunity right now to ensure the buildings and facilities that are now being built are designed for the future when it comes to energy needs. At present, capital investments over time give us the best opportunity to make green investments. Explore "The Battery Park City Story in New York: Growing a Green Community" http://www.batteryparkcity.org. This project gives wonderful examples of how to construct buildings in harmony with the environment.
- I'm confident that our science and engineering community can discover the new technology to provide renewable energy, but in this new green economy the scientist and engineer need to play a major role in partnerships with others to ensure that this technology can be brought online to serve all citizens.

Just think for a moment of the opportunities for business to flourish. Work conducted by Pacala and Socolow in 2004 brings forward the theory of "Stabilization Wedges" to reduce CO_2 over time. It includes: producing 2 billion cars that can get 60 miles to the gallon, build 1 million 2MW wind turbines to displace coal power, build 700 GW of nuclear power to displace coal power, decrease car travel for 2 billion from 10,000 to 5,000 miles per year, capture and store GHG emissions of 1600 large coal plants, improve energy efficiency by one-fourth in building and appliances, and produce 100 times current U.S. ethanol.

Whether you believe in all of the recommendations or not, these examples provide a snapshot of the opportunity for the world to improve the environment, quality of life, and economic prosperity.

- Whether we believe that climate change is man-made or influenced by human beings, our climate is changing and we are going to need to adapt. Water resource planning, where we build, impact to habitat, and migration of invasive species will all play a major role in planning and building for the future. Quality of life, the protection of the environment and the creation of a green economy must go hand-in-hand in order to provide prosperity to all human beings.
- It is important now to put your company or the facilities that you oversee in a position to take advantage of this new green economy and be able to seize the moment. Understand what your position might be in this emerging economy and be in a position to take advantage of the company's intellectual capacity, or the opportunities to lower the carbon footprint of the facilities you operate. In the future, the more you pollute the more you are going to pay.
- Ensure that the professional associations that you belong to are in the energy policy game and have a vision of what the future will hold. My sense is that within the next 2 years, if not sooner, there will be a flurry of national legislation. The environmental revolution has already begun. Environmental professionals have a huge stake in this arena and need to be at the table.
- The public is willing to consider paying more today for capital investments, if they have the means, and when they understand the value to the environment. Green roofs, habitat restoration, re-use of water, passive cooling, reduction of hard surfaces, and reduction of wastes are all positives to the public-at-large. Design services in the future need to be sold in a manner that demonstrates how the designs and programs being proposed are in harmony with the environment and will tie in with the future green economy.
- I predict the coming decades will be the golden age for environmental professionals and those that impact the fabric of the environment. If there ever was a time that this country and world needed leadership from your community, it is now. Environmental engineering, science and environmental management are not just studies and policy papers about building water systems and wastewater treatment plants, but ensuring that you are giving the best possible advice to society to ensure when that environmental fabric is being sliced you have done the best job possible to identify the benefits and consequences to society for the well-being of future generations.

SUMMARY

In closing, it took the burning of the Cayuga River in Cleveland to pass the Clean Water Act and Love Canal to focus on hazardous waste sites. Today, high fuel costs, natural disasters, and our changing climate have brought about the winds of change and a refocus on our environment. In the end, maybe the last decade was good for Americans in that we are beginning to learn that we can not continue to believe we can out build our environmental footprint and prosper in the future. The lack of water in the South and West, air pollution in China, Hurricane Katrina, high energy costs, unstable economy, the possible loss of

the polar bears, forest fires, and floods may have shaken us enough to act and time will tell. Without a worldwide environmental culture and a sustainable environment, the world has no hope of a vibrant economy for future generations.

ABOUT THE AUTHOR

In January 2007, George Crombie was appointed by Governor Jim Douglas as Secretary of Natural Resources for the State of Vermont. His experience includes service as Director of Public Works in Durham, NH, and Burlington, VT prior to becoming Undersecretary of Environmental Affairs for the Commonwealth of Massachusetts. He has also served as an Adjunct Faculty Member at Northeastern University where he taught Environmental Policy. Secretary Crombie is spearheading the Governor's Climate Change Initiatives in Vermont: A Signature Partnership of Vermont's Government, Academic and Private Sectors in creating a footprint to manage climate change through a new green economy.

Secretary Crombie earned baccalaureate degree from the University of New Hampshire and a Masters of Public Administration from Northeastern University. He is the recipient of the APWA Charles Walter Nichols award for his contributions in the environmental field, and the the International Society of Arboriculture Gold Leaf Award. He was selected by APWA as one of the top ten public works directors in the United States and Canada and was selected by Public Works Magazine as one of the 50 people, places, and events that had the greatest impact on the nation's infrastructure in 2008. A

Academy News

continued from page 5

SPECIALTY CERTIFICATION RENEWALS

The 2009 Specialty Certification Renewal Packages were mailed in September. Current certifications expire December 31, 2008, and payment is expected by that date. However, a 30-day grace period exists, thereby extending the last day to renew to January 31, 2009.

Any BCEE or BCEEM not having completed the certification process by January 31 will lose his or her specialty certification, their listing in the 2009 edition of *Who's Who in Environmental Engineering* as well as be assessed a 10% late fee. Please make sure you have submitted the necessary forms and payment before the deadline. If you have any questions or have not yet received your renewal package, you may call Joyce at AAEE Headquarters.

2009 EXCELLENCE IN ENVIRONMENTAL ENGINEERING COMPETITION

Entries are now being accepted for the 2009 Excellence in Environmental Engineering Competition.

The E3 Committee has added a new category for the 2009. In addition to accepting entries in Research, Planning, Design, Operations/Management, University Research, and Small Projects, entries will now be accepted in the new category of Small Firms.

Small Firms consists of any Research, Planning, Design, Operations/Management Small Projects defined by the above-mentioned categories conducted by a small firm. A Small Firm is defined as one that has an annual gross revenue of $5,000,000 or less.

In addition to the prestige of being a participant in Excellence in Environmental Engineering Competition, entrants are also automatically entered in the International Water Association's Project Innovation Awards. More information on the IWA's Project Innovation Awards can be located on page 17.

Entry guidelines, forms, profiles of winning entries of previous years can be found on the E3 section of AAEE's website, http://www.aaee.net.

KAPPE LECTURER SELECTED

Rao Y. Surampalli, Ph.D., P.E., BCEE, F.AAS, has been selected as the Kappe Lecturer for 2009. Dr. Surampalli is an Engineer Director with the United States Environmental Protection Agency. A full profile and abstracts on his lectures will be available in the Winter issue of *Environmental Engineer*.

NEW LOOK FOR ENVIRONMENTAL ENGINEER

Your *Environmental Engineer*, the official quarterly periodical of the American Academy of Environmental Engineers, will be getting a new look next year. In addition to the fresh format, the *Environmental Engineer* will be published in full color beginning with the Spring 2009 issue.

In the mean time, the Winter issue of *Environmental Engineer* is already in production. Among stories being worked on are The Top Employers of 2008, The Class of 2008, and AAEE at WEFTEC'08. A

The AAEE Career Center

With its focus on companies and professionals in the field of Environmental Engineering, the AAEE Career Center offers its members -- and the industry at large -- an easy-to-use and highly targeted resource for online employment connections.

Both members and non-members can use AAEE Career Center to reach qualified candidates. For only $250 for a 30-day listing, employers can post jobs online, search for qualified candidates based on specific job criteria, and create an online resume agent to email qualified candidates daily.

For job seekers, the AAEE Career Center is a free service that provides access to employers and jobs in the field of environmental engineering. In addition to posting their resumes, job seekers can browse and view available jobs based on their criteria and save those jobs for later review if they choose. Job seekers can also create a search agent to provide email notifications of jobs that match their criteria.

http://careers. aaee.net

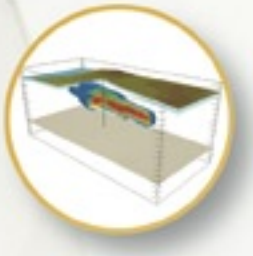

GET THE **RECOGNITION** YOU DESERVE.

ENTER THE 20TH ANNUAL

Excellence in Environmental Engineering®

COMPETITION



For decades, AAEE's **Excellence in Environmental Engineering Competition®** has been the **gold** standard recognizing those projects or programs that truly exemplify the genius of mankind. It has defined what it takes to be **the best** — a holistic environmental perspective, innovation, performance, and customer satisfaction, and contribution to an improved quality of life and economic efficiency.




Entries are due by February 1, 2009.


For entry forms, guidelines, submission instructions, and details, contact us at:


American Academy of Environmental Engineers
130 Holiday Court, Suite 100
Annapolis, MD 21401
410.266.3311, Fax: 410.266.7653
http://www.aaee.net