AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)
AMERICAN SOCIETY FOR ENGINEERING EDUCATION (ASEE)
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS (AICHE)
AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE (AAAS) **AUGUST 2008**

ENGINEERS FORUM ON SUSTAINABILITY

CLIMATE CHANGE FOSTERS SUSTAINABILITY RESEARCH

This issue of the Forum Newsletter contains several articles that highlight the current challenges of global climate change and the research needed to address these challenges. Included are summaries of the National Academies recent Sustainability Symposium, and their planned major study on global climate change. Also included is a summary of the ongoing Founder Societies Project on Technologies for Carbon Management. In addition, the Newsletter includes summaries several of the fine presentations made at the May, 2008 Forum meeting, and a variety of interesting, sustainability-related articles.

The next meeting of the Forum is scheduled for Friday, September 26, 2008, in the Lecture Room of the National Academy of Engineering in Washington, D.C. The Forum will meet from 9:00 a.m. to Noon, and the AAES International Activities Committee will meet in the same room from 1:00 p.m. to 4:00 p.m. All Forum attendees are invited to join the afternoon session as well.

You will be e-mailed a copy of the Forum agenda separately. We look forward to seeing you on September 26.

Al Grant, Forum Chair
Darlene Schuster, Forum Co-Chair

Inside this issue:

GOVERNMENT

THE GLOBAL FLOW OF METALS AND MINERALS

At the May 9, 2008 meeting of the Engineers Forum on Sustainability, Donald Rogich, Consultant, and Grecia Matos, U.S. Geographic Survey, presented a review of the trends in worldwide metals and minerals production and consumption based on newly developed global metals and minerals Material Flow Accounts (MFA). The MFA developed include data on extraction and consumption for 25 metal and mineral commodities, on a country-by-country and year-by-year basis, for the period 1970 to 2004.

Metals and minerals represent a major category of nonrenewable resources that humans extract from, and return to the natural ecosystem. As the scale of the human system has grown, metals and minerals use has increased accordingly. This growth in scale has serious implications for both the availability of future resources and the environment which is affected by the outputs associated with these flows. The U.S.G.S. study provides an overview of a number of the trends observed and suggests areas for future study.

Numerous national MFA have been developed to provide information on the industrial metabolism of individual countries. While extremely useful, the information contained in these accounts does not include the growing global trade in finished goods which are difficult to account for. The creation of a global metals and materials MFA is viewed as a first step in what ultimately will be the creation of comprehensive global material flow accounts documenting the historical and current flows of all of the categories of physical goods that support world economies.

This database, jointly developed by Grecia Matos and Donald Rogich, resides with the U.S.G.S. as individual commodity Excel workbooks and within a Filemaker data management system for use in analysis. The data may be accessed on the U.S.G.S. website in the near future.
For further information, please contact Grecia Matos at 703-648-7714 or by e-mail at gmatos@usgs.gov.

EPA P3 AWARD WINNERS ANNOUNCED

The P3 Award competition was held at EPA's 4th Annual National Sustainable Design Expo on the National Mall in Washington, D.C., April 20 - 22, 2008. The Expo showcases innovative cutting-edge technologies designed by the P3 teams along with sustainable policies and technologies developed and implemented by government and state agencies and non-profit organizations.

This national competition, sponsored by EPA's Office of Research and Development, encourages college students to create sustainable solutions to environmental problems through technological innovation. These sustainable solutions must be environmentally friendly, efficiently use natural resources and be economically competitive. Each P3 award winner receives funding up to $75,000 to further develop their designs and implement them in the field or move them to the marketplace.

Winners of the 2008 awards and their projects are:

Drexel University, Philadelphia, Pa., A Novel Reactor Design for Efficient Production of Biodiesel from Free-Fatty-Acid Oils

Loyola University of Chicago, Chicago, Ill., Innovative Biodiesel Production: A Solution to the Scientific, Technical and Educational Challenges to Sustainability

University of California-Berkley, Berkeley, Calif., Electrochemical Arsenic Remediation in Rural Bangladesh

University of California-Davis, Davis, Calif., Production of Natural Plastics in Wastewater Treatment

University of Illinois at Urbana-Champaign, Urbana, Ill., Sustainable Water Development Program for Rural Nigeria

University of Iowa, Iowa City, Iowa, Design and Testing of a Point-of-Use Electrolytic Chlorine Generator for Drinking Water Disinfection in Poor Countries

The University of Iowa Environmental Learning Center www.caa.uidaho.edu/McCallDesignBuild/ was awarded the YCOSST EPA P3 Award. YCOSST is the Youth Council on Sustainable Science and Technology, a partnership of AIChE Institute for Sustainability and SustainUS.

Support for the competition includes more than 40 partners in the federal government, industry and scientific and professional societies. The 2008 Expo was co-sponsored by the Cloud Institute fro Sustainability Education and the World Environment Center.

For more details on the P3 award winners and their projects, visit www.epa.gov/P3

ACADEMIA

CONGRESS PASSES HIGHER EDUCATION SUSTAINABILITY ACT

Congress recently passed all provisions of the Higher Education Sustainability Act (HESA) as part of the new Higher Education Opportunity Act of 2008 (HR 4137). It creates a pioneering "University Sustainability Grants Program" at the Department of Education. It will offer competitive grants to institutions and associations of higher education to develop implement and evaluate sustainability curricula, practices, and academic programs.

This is the first new federal environmental education funding program authorized in 18 years. Endorsed by over 220 colleges and universities, higher education associations, NGOs and corporations, this grant program will provide the catalyst for colleges and universities to develop and implement more programs and practices around the principles of sustainability. The bill also directs the Department of Education to convene a national summit of higher education sustainability experts, federal agency staff, and business leaders to identify best practices and opportunities for collaboration in sustainability.

The Campaign for Environmental Literacy organized the broad alliance of higher education and environmental organizations supporting the bill. For more information, visit elder@FundEE.org

HIGHER EDUCATION CLIMATE COMMITMENT NOW NATIONWIDE

Higher education institutions in all 50 states and the District of Columbia have now signed the American College & University Presidents Climate Commitment (ACUPPC). The ACUPPC is a high-visibility effort to address global warming and to accelerate the research and educational efforts of higher education to equip society to re-stabilize the earth's climate. To date, the leaders

of 526 institutions across the country - representing 25% of the total student population - have made the Commitment.

By joining the ACUPPC, colleges and universities agree to create a plan to achieve climate neutrality as soon as practically possible and to promote the research and education needed to dramatically reduce GHG emissions and re-stabilize the earth's climate. ACUPPC institutions are making regular progress reports available to the public, a move that will promote greater learning about the process and ensure accountability.

In addition to creating an institution-wide action plan to move forward to climate neutrality, schools are initiating two or more of the following concrete actions while the broader plan is being developed:

* Adopting green standards for buildings;

* Requiring ENERGY STAR certification for products purchased by the university;

* Offsetting emissions due to air travel;

* Encouraging public transportation;

* Purchasing energy from renewable sources;

* Supporting climate and sustainability shareholder proposals through their endowment; and

* Minimizing waste generated on campus.

The Presidents' Climate Commitment is the first such effort by any major sector of society to set climate neutrality - not just a reduction in GHG emissions - as its target. It has been inspired by the U.S. Mayors Climate Protection Agreement, the U.S. Climate Action Partnership, and other collective efforts by states and businesses.

For more information, visit www.presidentsclimatecommitment.org.

PROFESSIONAL ORGANIZATIONS

FORUM BRIEFED ON AAAS CENTER FOR SCIENCE, INNOVATION, AND SUSTAINABILITY

Sarah Banas, Program Associate, American Society for the Advancement of Science (AAAS) briefed the Forum on the AAAS Center for Science, Innovation, and Sustainability, at the May, 2008 Forum meeting. AAAS is the newest Co-sponsor of the Forum.

As a society dedicated to collaboration across scientific disciplines, AAAS has a legacy of engaging its members in issues surrounding sustainability. Starting from it's coverage of the World Commission on Environment and Development (Brundtland Commission) in 1983, the AAAS flagship journal, SCIENCE, has published hundreds of news items, editorials, and reports on sustainability. A number of recent AAAS presidents have also identified sustainability as a key component of their presidency.

Sustainability is also a common theme throughout AAAS' program activities. In addition to the Roger Reville Fellow in Global Stewardship, as many as a quarter of the AAAS Science and Technology Policy Fellows are involved in an ad hoc sustainability group. The Center for Science, Technology and Congress regularly tracks climate change policy and has held briefings on such topics as biofuels, adaptation, and mitigation. Sustainability has also been incorporated in the

Education Directorate, including the creation of a K-12 curriculum guide for teaching climate change.

The Center for Science, Innovation, and Sustainability aims to serve as the hub for the community of scientists, engineers and practitioners who are engaged in sustainable development. By tapping into the activities going on around the world, the Center aims to connect individuals and institutions with similar interests. An online Forum (http://sustainabilityscience.org), which includes a directory of people, programs, research, events, and opportunities, is one way this is accomplished. The Center also plans symposia and roundtable discussions, with recent topics on connecting emerging university-based science programs, and Sustainability within African Institutions. The Center also coordinates activities with AAAS affiliates and friends, including the National Academies and AASHE, and often collaborates with AAAS international partners.

FOUNDER SOCIETIES PROJECT ON TECHNOLOGIES FOR CARBON MANAGEMENT

Important national and international climate change policies are being considered to achieve significant reductions in greenhouse gas emissions. The G8 recently stated the goal of achieving at least a 50% reduction in worldwide greenhouse gas emissions by 2050 – a global challenge. To achieve such goals would have profound implications for technologies, infrastructure, agriculture, and the ways energy is used that span the range of engineering disciplines of the Founder Societies (AIChE, ASME, IEEE, ASCE, and AIME) of the United Engineering Foundation (www.uefoundation.org/fndsoc.html).

With the belief that it is the responsibility of engineers and engineering professional societies to respond to this grand challenge, the five major engineering societies have organized and implemented the first year of an initiative to address this challenge.

The project will impart non-biased, balanced technical expertise into both technical and non-technical programs conducted outside of the Founder Societies ongoing efforts on Technologies for Carbon Management, provide avenues to further promote and disseminate the excellent activities the societies have underway in carbon management, and serve as the premier bridge between engineering expertise in Carbon Management Technology and associated societal impacts of Carbon Management and Greenhouse Gas (GHG) Issues.

Goal: To assure that engineering communities, educators, the general public, and public policy makers have the best-available information, analysis, sound engineering advice and recommendations regarding the mitigation of greenhouse gas emissions which contribute to climate change.

Project Objectives: Enable enhanced engagement of the Founders Societies and engineering communities by answering the following questions:

- How to best manage and mitigate GHG emissions associated with the use of energy systems for electricity and transportation and buildings.
- What are the new and future technologies and the gaps and barriers to implementation?
- What are the metrics and system boundaries that should be used to monitor and manage progress towards the emission targets including technical and societal dimensions?

Methodology and Approach: The Initiative will use the best systems engineering and socioeconomic practices to evaluate technology and policy options including technical, economic and societal dimensions.

In 2008, the group will have, with sponsorship from the United Engineering Foundation:

- Establishing a Founder Society project team with technical leaders from each society

- Refined project objectives to incorporate recommendations and experience of the team participants; this was carried out through individual analysis, conference calls and project meetings
- Completed an initial project: This phase has focused on understanding available knowledge and serves as the benchmark for the next phase. Two energy sectors were selected – electric power and transportation – with the following questions addressed.
    - What are the available options and projected future technologies?
    - How are these technologies being evaluated? What boundaries are used? What metrics are used?
    - What are the gaps and barriers to implementation?

Bringing together the expertise of the five engineering societies is key to the success of this initiative. Therefore, it is imperative to have expertise and perspective integrated from all of the engineering disciplines involved. This project is unique from individual society initiatives as it has been collaboratively developed from the initiation of the project. An important part of this project has been the exchanges between society participants. Each society has been represented in working to provide their expertise and this has led to changes in the participants as part of the work to bring together the appropriate team to carryout the task. A quality team has been assembled that provides an excellent basis for implementing the proposed scope of work. This effort focuses on leveraging the expertise of the different disciplines and crossing the discipline boundaries. To help meet this goal, virtual meetings, teleconferences, face-to-face meetings, and SharePoint all being used to the fullest extent. For additional information, and to become involved in the project, please contact ifs@aiche.org. .

ASCE SUSTAINABILITY WEBSITE FEATURES GUIDELINES AND ACTION PLAN

www.asce-susdev.org provides Society-wide information on the sustainability policies, programs and activities of ASCE, and its role in promoting sustainable development in the engineering profession. The website includes the report "Sustainability Guidelines for ASCE Sections, Branches and Student Chapters," and the ASCE Sustainable Development Action Plan authorized by its Board of Direction in May, 2008.

The Sustainability Guidelines report is packed with information, ideas and references that will assist ASCE Sections, Branches and Student chapters in planning their own local and regional programs and activities that address sustainable development principles and practice. This 25 page report can be viewed and downloaded at the website, under Programs.

The ASCE Sustainable Development Action Plan was prepared in response to a joint commitment of ASCE, the Canadian Society of Civil Engineers, and the Institute of Civil Engineers. On July 4, 2006, the three organizations signed a document entitled "A Sustainable Future for the Planet." It called for each organization to "...develop, monitor and implement an action plan to help articulate and deliver their contribution to sustainable development nationally and internationally..." It added that "This will build on work already carried out by the three institutions."

The ASCE Vision for Civil Engineering in 2025 states that civil engineers will be "entrusted by society to create a sustainable world and enhance the global quality of life..." The Action Plan has been designed to fulfill the Society's obligation, as called for in "A Sustainable Future for the Planet," and to provide a strong, Society-wide program to help achieve ASCE's vision of creating a sustainable world.

The Plan includes both past actions and proposed new actions, so that the reader can follow the logical progression of steps already taken by the Society. Eleven new action recommendations are included in the report, and an internal sustainability network is being created with all of the ASCE organizational units who have responsibilities and interests in various aspects of

sustainability, to implement these recommendations. The Plan can be viewed and downloaded at the website, under Programs.

In addition to the ASCE Sustainability Guidelines and Sustainable Development Action Plan, www.asce-susdev.org contains information on PERSI, the Engineers Forum on Sustainability, and other sustainability-related activities, events, news and resources.

IEEE PROPOSES VIDEO SERIES ON SUSTAINABILITY

The Institute of Electrical and Electronic Engineers (IEEE) is submitting a proposal to the United Engineering Foundation (UEF) for the development of a series on sustainability and engineering, aimed at pre-university audiences. The project involves collaboration with Sciencentral, a New York-based production company with experience in producing videos on science and technology for general audiences. The series is designed to communicate the role of engineers in finding sustainable solutions for the planet, in areas such as power and energy, health, as well as housing and transportation. IEEE's goal is to demonstrate the attractiveness of engineering as a field of choice for young people, especially women, who are seeking careers that benefit mankind and build a sustainable future.
The IEEE proposal to the United Engineering Foundation will stress a sustainable concept for television programming that will include a robust business model for program development and distribution. This may involve developing several versions for a given topic.

The IEEE is now focusing on the design of the series to facilitate distribution. There are three venues under consideration:

1. IEEE.tv www.ieee.org/ieeetv -- 5-9 minute programs
2. Museums -- 2 minute programs
3. Broadcast (public television, Discovery, etc.) - half hour program segments.

These short videos accompanied by online study guides, will be aimed at young people, ages 12 to 18. Tentative titles for programs of the envisioned series, Engineers are Green: Sustainable Solutions for the Planet include:

Program 1: Preserving the Environment through Recycling and Reuse.
Program 2: Renewable Energy and Energy Efficiency.
Program 3: Greening Buildings and Transportation.
Program 4: Engineering for Better Health.
Program 5: GEOSS: A System for Managing the World's Resources.
Program 6: Engineering in the Developing World.
The videos will use examples from many engineering areas worldwide, and emphasize the interdisciplinary and international nature of engineering, including close collaboration with professionals from other disciplines involved in developing and influencing public policy. For samples of IEEE videos on sustainability, go to IEEE.tv (www.ieee.org/ieeetv) to view completed videos on e-waste, GEOSS, wind power, green engineering, and social responsibility. For more information on the proposal and how you and your organization can help support it, contact Peter Wiesner (p.wiesner@ieee.org)

INTERNATIONAL

ECOSAC/WFEO SESSION AT THE UN

The World Federation of Engineering Organizations, WFEO, which was chartered by the United Nations to provide technical input into UN events, organized “The Role of Engineers in Advancing Sustainable Development, Working towards Achieving the Millennium Goals. It was presented as

a side event at the Innovation Fair on “Implementing the internationally agreed goals and commitments in regard to sustainable development”, held at United Nations, New York from 30 June to 2 July 2008. The Economic and Social Council (ECOSOC) sponsored the Innovation Fair, and it serves as the central forum for discussing international economic and social issues, and for formulating policy recommendations addressed to Member States and the United Nations system.

The event was chaired by Darrel Danyluk P.Eng, Vice President, World Federation of Engineering Organizations and Chair, Committee on Engineering and Environment Lead, Urban Alliance - University of Calgary.
FEO.

The US membership into WFEO is represented by the American Association of Engineering Societies, the umbrella organization which now sponsors the Engineers Forum on Sustainability. Reg Vachon, Vice Chair – America Assn of Engineering Societies, International Affairs Committee, Past President of ASME presented the various ways that sustainability presents an opportunity for engineers to serve the world, and highlighted the sustainability activities of AAES member societies including the Engineers Forum on Sustainability, ASCE, AIChE, ASME, IEEE-USA, AAAS and ASEE. American Institute for Chemical Engineers President Dale Keairns was selected to present the Institute for Sustainability project on benchmarks for measuring sustainability and the AIChE Sustainability Index (sm). The index provides tangible measures to look at true progression in implementation of sustainability and how it helps industry partners benchmark progress in meeting sustainability goals. Jack Fritz, ASCE Sustainable Development Technical Activities Committee, discussed the role engineers play as being global leaders to build a better quality of life. Additional perspectives on the Urban Alliance were made by Sherry West, Strategic Research Officer, University of Calgary and Randy Martin, Program Manager Urban Alliance, City of Calgary.

The WFEO was also represented at the ECOSOC High Level Ministerial Roundtable Breakfast, where Danchuk remarked:

- Science, technology and innovation are essential for achieving sustainable development. WFEO is in 90 countries and 15 million engineers who are responsible for the worlds infrastructure
- WFEO members bridge policy to implementation
- All infrastructures (the foundation of a nations society and economy) and their elements (physical, systems and human) need to be considered when addressing sustainability. They require on-going capital, operating and human resources
- There is a correlation between the strength of a nations engineering ability and the strength of its economy

Danchuk commented, “Engineering and implementation are/appear to be missing from the discussions at ECOSOC, and it is clear that “An opportunity exists to address these gaps through continued participation” of the WFEO” in these events.

OTHER ORGANIZATIONS

NATIONAL ACADEMIES ADDRESS GLOBAL CLIMATE CHANGE

The National Academies are preparing to launch a series of coordinated activities to study the serious and sweeping issues associated with global climate change, including the science and technology challenges involved, and provide advice on actions and strategies the nation can take to respond. The study activities will include a major Summit on Global Climate Change, four panels convened to study specific aspects of responding to climate change, and a Climate Change Study Committee responsible for coordinating these activities, writing a final report, and leading a number of outreach and communication activities. Collectively, the Climate Change

Study is designed to produce a broad, action-oriented, and authoritative set of analyses to inform and guide responses to climate change across the nation. The Climate Change Summit is tentatively targeted for March, 2009.

The four focused panels will write in-depth reports on the following four questions:

1. What can be done to limit the magnitude of future climate change?

2. What can be done to adapt to the impacts of climate change?

3. What can be done to better understand climate change and its interactions with human and ecological systems?

4. What can be done to inform effective decisions and actions related to climate change?

The Climate Change Study Committee will write a final report that synthesizes the conclusions of the panel reports and answers the following four integrating questions:

1. What short-term actions can be taken to respond effectively to climate change?

2. What promising long-term strategies, investments and opportunities could be pursued to respond to climate change?

3. What are the major scientific and technological advances needed to better understand and respond effectively to climate change?

4. What are the major impediments to responding effectively to climate change, and what can be done to overcome them?

This work will be followed by a group of communication and dissemination activities, including a major Symposium to present the findings of the final report and panel reports, and a series of derivative products and outreach activities targeted at communicating the report to specific audiences.

For more information, visit http://dels.nas.edu/basc/climate-change. For more information about the study and the summit, including access to the texts and videos of the above presentations, visit www.nationalacademies.org/energy/ .

NATIONAL ACADEMIES HOLD SUSTAINABILITY SYMPOSIUM

The U.S. National Academies' Roundtable on Science and Technology convened a symposium In June, 2008 entitled "Partnerships for Sustainability: Examining the Evidence," to evaluate the partnership record in addressing issues associated with sustainability. The symposium examined the cross-cutting challenges that the partnerships have addressed, including: involvement of several sectors, action at varying scales, from local to global, a combination of public and private financing, and a complex set of science questions.

The experience of eleven partnership case studies were used to help shape the analysis and discussion, using a common framework and set of questions. The following partnerships were examined:

Agua Para Todos (Bolivia)
Common Code for the Coffee Community (Africa/Asia/Latin America)
East Coast Fever Vaccine Development (East/Central Africa)
Farm to Fork Initiative (U.S.)
Global Water Challenge ((Africa/Central America/Asia)

Green Power Market Development Group (U.S./Europe)
Multilateral Initiative on Malaria ((Tanzania)
Renewable Energy and Energy Efficiency Partnership (Worldwide)
Sustainable Forest Product Global Alliance (Africa/Asia/Latin America)
Sustainable Silicon Valley (California)

It is anticipated that the results of the symposium will help leaders in government, private sector, foundations/NGOs, and universities, both in the United States and internationally, as they develop and participate in new partnerships for sustainability. For information on the results of the symposium, please contact Kathleen McAllister (kmcallister@nas.edu)

SUSTAINABILITY IN POST-KATRINA NEW ORLEANS

(Ed. Note: Pamela R. Bingham, Principal, Bimgham Consulting Services (MD, LA, MS) made a presentation on Sustainability in Post-Katrina New Orleans at the May, 2008 meeting of the Engineers Forum on Sustainability. The following is abstracted from an article she wrote which reflects the major elements of her presentation.)

This article will update some of the efforts and successes in ensuring the restoration and sustainability of the city of New Orleans preceding the third anniversary of Hurricane Katrina (August 25, 2008). Some related policy issues and opportunities will also be acknowledged.

Sustainability is a broad, interdisciplinary concept in general, but particularly in its New Orleans concept. Recognizing the complexities of life on the Mississippi River, the history of New Orleans with its people of Native American, African, Portuguese, French and Spanish descent, and how those complexities and diversities shape the viewpoint of what sustainability "is" would fill several books. Sustainability efforts in post-Katrina New Orleans are largely driven from the "bottom-up" with resident-driven visions that have become city/state policy. "Traditional" transplants (e.g. environmental professionals, planners, architects, and engineers) have been involved in the three major planning processes since Hurricane Katrina. The will to help reconstruct New Orleans motivated significant student/faculty/university-based involvement, locally, nationally and internationally, with new sustainability concepts introduced into the recovery.

MOVING TOWARDS SUSTAINABILITY

In one of the earliest "charette" type activities, the American Society of Civil Engineers (ASCE) participants along with the American Planning Association (APA), and the American Institute of Architects (AIA) members participated in the "Louisiana Speaks" workshops held around the state, and the resulting documents identify commitment to sustainable concepts. Every subsequent planning process has articulated a commitment to sustainability, now interwoven into all aspects of the New Orleans recovery, including the environment, health, rebuilding/construction, economic development, and equitable development areas.

Faith-based organizations, in addition to providing immediate response and relief after the storm, also supported environmental sustainability. An interfaith local group, All Congregations Together (ACT), has continually addressed environmental health/environmental justice concerns, housing and related issues. the volunteer deconstruction and construction work of faith-based volunteers in New Orleans has been probably unparalleled in the history of this country. (Baptists, Catholics,Episcopaliand, Mormons, Muslims and many other faiths coordinated volunteer work teams providing housing, food, and transportation). Local church leaders with environmental partners developed a green rebuilding/energy efficiency guide to aid the rebuilding of many places of worship damaged by Katrina. A local Mosque provided jobs for members of the construction industry, and the local Catholic Diocese formed a partnership known as Providence Housing with the Enterprise Green Communities Program among others.

Nunerous examples of environmental/sustainability activities exist from the federal to the individual levels. The Green Project was formed by a resident to teach New Orleanians how to improve the efficiency of homes, including installation of compact fluorescent bulbs (CFL's).

FEDERAL - The city was selected for a Department of Energy "Solar America" cities program on solar energy in Fall, 2007. "Green Jobs" training via a USA Brownfileds Job Training Grant was awarded to a group including Goodwill Industries of Southeastern Louisiana, Limitless Vistas Inc. training program, BFA Environmental JOB1, and Louisiana Technical College. Students receive college credit and an environmental field technician certificate.

STATE - The Louisiana Incentives for Renewable and Efficieancy Tax Credit for Solar and Wind Energy Systems on Residential Property (Corporate) was passed and signed into law on January 12, 2008. The Louisiana Recovery Authority also adopted goals for green schools.

CITY - Mayor Ray Nagin developed a GreeNOLA Road Map and has reinvigorated a Green Council, revived programs like the environmental conservation policy, and implemented the use of ethanol-blend fuel (E-10) to power the city fleet. The Road Map has many promising short, medium and long-term green goals, milestones and indicators.

NEIGHBORHOODS - Broadmoor Neignborhood Association developed its own recovery plan with the assistance of funding/technical support (e.g. Walter Issaacson/ Aspen Institute, Ivy League colleges, etc,) Developing sustainable facilities including a library, school, community and green building resource center for the community are components of the plan. The Central City Partnership partnered with the national Groundworks for some phytoremediation activities. CCP prepares to rebuild housing, and a local grassroots group, Consciously Rebuilding, has formed to train residents to build more environmentally healthy/efficient housing. A pre-K and health facility is also being planned. The Lower 9th Ward and Holy Cross neighborhood destruction has brought some positive responses. Groups like ACORN, actor Brad Pitt's "Make It Right" program, and Global Green are helping the community.

ISSUES, CHALLENGES AND OPPORTUNITIES

Although much is underway, greater opportunities and initiatives for a more sustainable New Orleans exist, including:

* Building sustainable housing for all.
* Developing and incorporating environmental education curricula for schools.
* Using renewable energy and developing supplies in New Orleans
* Providing workforce training in green building.
* Ensuring resident leadership training throughout the city
* Providing sustainability/green building training to volunteers.
* Enhancing and requiring deconstruction/recycling in debris management.
* Utilizing celebrity and media attention for additional funding to subsidize sustainability.

Issues and challenges remain in the environmental realm, including:

* Infrastructure restoration.
* Magnitude of debris removal and landfill availability.
* Flood protection/wetlands/coastal restoration for long-term sustainability.
* Ongoing political leadership in environmental protection.
* Race/intra-race/class/poverty issues affecting inequities in access to sustainable buildings.
* Literacy among youth and adults and the quality of public school education.
* Mass transit attitudes among moderate and higher income residents.

New Orleans has many issues to address, and rebuilding is a major complex challenge, but the residents are trying to learn from best practices and to incorporate them in a sustainable manner

compatibly with their environment. For more information, contact Pamela at 301-661-2061 or Environmentally1@aol.comm .

UPCOMING SUSTAINABILITY EVENTS

.

The NAE Center for Engineering, Ethics and Society will convene a workshop on engineering, social justice, and sustainable community development on October 2-3 in Washington, D.C. The workshop will explore engineering in contexts of poverty, crisis and controversy. The full program and registration for this free, public event are available online at www.nae/engethics.nsf/weblinks/CGOZ-7C6L3X?OpenDocument.

The Education for Sustainability National Professional Organization Summit will be held in Washington, D.C., October 6, 2008. The purpose of the summit is to promote development of a sector-wide strategy for integrating education for sustainability into the teaching and operations of U.S. K-12 schools. The summit is being convened by the U.S. Partnership for Education for Sustainable Development. There is no cost to attend the summit. Registration is online at www.surveymonkey.com/s.aspx.

ASCE's International Program at the ASCE Annual Conference in Pittsburgh is scheduled November 5-6, 2008. It addresses sustainability in the engineering workforce of the future. The program includes Urban/Water Impacts of Climate Change, Professional Perspectives in Addressing Climate Change, and an International Roundtable with the World Bank - Preparing for Climate Change. For more information, visit www.content.asce.org'international/index.html.

AAAS and Cornell University are presenting an AASHE Pre-conference workshop in Raleigh, N.C. on November 9, 2008. The workshop offers participants insight into three innovative university based initiatives and the opportunity to join a growing international community of practice. For more information, visit www.aashe.org/conf2008/schedule.php.

AIChE 2008 Annual Meeting, November 16-21, 2008, Philadelphia Marriott & Pennsylvania Convention Center, Philadelphia. Sustainability Topical include: Sustainability in the Pharmaceutical Industry (sponsored by the Green Chemistry Institute Pharmaceutical Roundtable), Life Cycle Assessment, Sustainable Biorefineries, and Global Perspectives on Sustainability. www.aiche.org/Conferences/AnnualMeeting/index.aspx

Plan Ahead for Important Sustainability and Related Meetings in 2009

Call for papers. Abstracts Due: October 24, 2008 **Engineering Sustainability 2009: Innovations that Span Boundaries**, to be held April 19–21, 2009, in Pittsburgh, Pa. Mascaro Center for Sustainable Innovation at the University of Pittsburgh. Focus is on the cutting-edge research and practice directed at the development of environmentally sustainable buildings and infrastructure. Additional Information: www.engr.pitt.edu/msi/2009conference/confmain.htm

Call for papers: Abstracts Due: December 1, 2008. **Sustainability: Lessons, Actions and Outlook.** AIChE 2009 Spring Meeting, to be held April 26-30, 2009, in Tampa, FL. Papers are invited on topics including Sustainability in the DOE Biomass Program Sustainable Energy, Implementing Sustainability, University/Industry Roundtable on Pre-Competitive Sustainability Research and Benchmarking Sustainability. To submit an abstract; visit www.aiche.org/spring and click on the call for papers/ptp link.

The **2009 Green Chemistry & Engineering Conference** will be held June 21-26 at the Marriott Inn and Conference Center in College Park, MD. For more information go to: http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_TRANSITIONMAIN&node_id=830&use_sec=false&sec_url_var=region1

AIME and its 4 Member Societies, SPE, TMS, SME, and AIST, are hosting **The Role of the Engineers in Meeting 21st Century Societal Challenges, Engineering Solutions for Sustainable Development: Materials and Resources - An International Workshop.** July 22-24, 2009 at the Ecole Polytechnique Federale University in Lausanne, Switzerland. With impending and burgeoning societal issues affecting both developed and emerging nations such as India and China, the global engineering community has a responsibility and an opportunity to truly make a difference and contribute. This workshop will focus on what materials and resources are integral to meeting basic societal needs in critical areas such as: energy, transportation, housing, food and water, recycling and health, the engineering answers for cost effective and sustainable pathways, and the development of the strategies needed for enabling the effective utilization of engineering solutions and the global engineering community. Contact AIME Associate Executive Director, Michele Gottwald at Gottwald@aimehq.org.

EPA and the Institute for Sustainability announce the **First International Congress on Sustainability Science and Engineering, (ICOSSE Aug 09)**. The Congress will be held in Cincinnati Ohio, Aug. 9 to 13, 2009 and will address the multidisciplinary nature of industrial sustainability along the supply chain. The Congress is organized by AIChE's Institute for Sustainability, cosponsored by EPA, NSF, and NIST and supported by ASME. For additional information: www.aiche.org/IFS/Conferences/index.aspx

.

For more information on this newsletter
Please contact:
Darlene Schuster
AIChE Institute for Sustainability
3 Park Avenue
New York, NY 10016
Phone: 410-458-5870; Fax 717-225-0305
E-mail: darls@aiche.org

For more information on the sponsors of this newsletter please visit their web sites:
ASCE: www.asce.org
American Society of Civil Engineers
ASEE: www.asee.org
American Society for Engineering Education
AIChE: www.aiche.org
American Institute for Chemical Engineers
IEEE: www.ieee.org
ASME: www.ASME.org
AAAS: www.aaas.org
American Association for the Advancement of Science