

Professional Society Support of Energy Water Nexus: Discussion of Models for Leverage and Cooperation

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International Society
for Water Solutions

Technical Entities:

Addressing Society's Grand Challenges of Today and Tomorrow



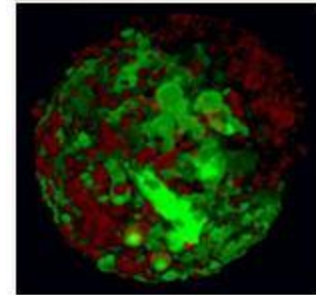
Energy



**Environment
&
Sustainability**



Water



**Health
&
Nutrition**

Center for Energy Initiatives

Institute for Sustainability

New **International Society for Water Solutions**

Society for Biological Engineering

New ***International Society for Metabolic Engineering***

Spectrum of Value added Products and Services provided by Professional Societies

- Platform for individuals to present their work
 - conferences
- Platform for peer review of projects relevant to industry and academia
 - conferences –journals
 - Workshops—peer review panels
- Ability to network with other experts
- Ability to learn
 - conferences
 - continuing education
 - Webinars/ e-learning
- Ability to create new knowledge by sharing with others
 - committee papers
 - Standards
- Ability to collaborate to create new knowledge and businesses
 - Sustainability Index
 - CHO genome
 - Process Safety Books
- Ability to communicate expertise in context to:
 - public (including K-12)
 - policy makers

Key Questions

- In trans-disciplinary areas:
 - how to best provide services
 - Silos? –one or multiple?
 - With others ?
- What are the key services needed to further the technology domain/implementation?
 - Including outreach
 - Including best practices for engagement of stakeholders
 - Including social science aspects of stakeholders

Three models of collaboration

- Formal Agreements among cooperating societies
 - Founder Societies Technologies for Carbon Management Project
- In formal cooperation among cooperating societies via umbrella memberships
 - Engineers Forum on Sustainability
- Coordination Networks
 - Columbia/FS Carbon Management CCUS Network

Many ways to collaborate—how to ensure engagement

Founder Societies Technologies for Carbon Management Project

**Presidents' and Executive Directors'
Project**

Formal agreement among Societies

Project Objective:

Establish an inter-disciplinary engineering society forum for dialogue and coordination and use this forum to respond to the energy challenge with a focus on carbon management

2013 Project Scope

- Create a collaborative Carbon Management Technology Conference
- Technology for Carbon Management Project – Project Teams on
 - ✓ Adaptation
 - ✓ CCS Network
 - ✓ GHG Measurement
 - ✓ Scorecards (Industrial Sectors)
 - ✓ Technology Assessment



Funded by the
United Engineering Foundation

FS Carbon Management Website

<http://fscarbonmanagement.org>

Founder Societies Technologies for Carbon Management

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 AICHE ASME AIME IEEE ASCE
Carbon Management



Welcome! This website will serve as a resource on the challenges to our collective 1 million members and society at large. The five major engineering societies, AICHE, AIME, ASCE, ASME, & IEEE have organized a new and exciting initiative: The Engineering Founder Societies Technology for Carbon Management Grand Challenge Initiative which is sponsored by the United Engineering Foundation.

IEEE calls for participation to develop standards for quantifying ghg emissions from small hydro and wind power projects, and grid baseline conditions. Click [here](#) for more information.

» [2012 Carbon Management Technology Conference](#)

 **Call for Abstracts:** This inaugural conference draws professionals from across all engineering disciplines to share their expertise and provide their perspective on the reduction of greenhouse gas emissions and adaptation to changing climate. The conference will focus on engineering perspectives on key issues, including technologies, strategies, policies, and management systems.

» [Obama's Blueprint for a Secure Energy Future](#)

 In this report, the Obama administration outlines their blueprint for developing and securing America's energy supplies, providing consumers with choices to reduce costs and save energy, and planning for a clean energy future. Click on the link above to view the full report.

NEWSLETTER

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<http://www.carbonmgmt.org/>

CARBON MANAGEMENT TECHNOLOGY CONFERENCE

CARIBE ROYALE HOTEL & CONVENTION CENTER
ORLANDO, FLORIDA, USA // 7-9 FEBRUARY 2012

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This inaugural conference draws professionals from all engineering disciplines to share their expertise and provide their perspective on the reduction of greenhouse gas emissions and adaptation to changing climate. The conference will focus on engineering perspectives regarding key issues, including technologies, strategies, policies, and management systems.

[Read more >>](#)

VENUE

Caribe Royale Hotel and
Convention Center
8101 World Center Drive
Orlando, Florida, USA 32821

CALL FOR ABSTRACTS

Call for Abstracts opening
soon!

QUICK LINKS

- [→ Subscribe to Email Updates](#)
- [→ Letter from Chairpersons](#)

CMTC 2013

Posted Wed, 2012-11-07 14:24 by mlchn



The Call for Abstracts is now closed

2013 Carbon Management Technology Conference (CMTC 2013)

The 2013 Carbon Management Technology Conference (CMTC) conference will draw professionals from all engineering disciplines to share their expertise and provide their perspectives on the reduction of greenhouse gas emissions and adaptation to changing climate. The conference will focus on engineering perspectives regarding key issues, including technologies, strategies, policies, management systems and metrics. Experts and practitioners will share their findings and experience with the readiness, effectiveness, and implementation of options involved in meeting the challenges posed by greenhouse gas emissions. Engineering expertise, experience, and perspectives are critical to developing a viable path to meeting these challenges.

CMTC welcomes engineers of all relevant disciplines, researchers and scientists, executives, agency personnel (international, federal, state and local), operations and maintenance engineers/managers, economists, academics, regulatory and legal professionals, suppliers of products and services, and project, technology and HSE managers to this successor to the inaugural 2012 CMTC.

CMTC will feature presentations by keynote speakers, technical papers, poster presentations, panel discussions, and workshops. Dave Rogers, General Manager of Climate Change at Chevron, is chairing this event.

What is Unique about CMTC:

- Organized by eight key Engineering Societies to tackle both mitigation and adaptation
- Reflects everything from in-the-field engineering experience to state-of-the-art research
- Designed to meet the needs of engineers and corporate decision makers
- Integrates interdisciplinary approaches to capture all essential perspectives

4 years in development

- Reflects everything from in-the-field engineering experience to state-of-the-art research
- Designed to meet the needs of engineers and corporate decision makers
- Integrates interdisciplinary approaches to capture all essential perspectives
- Builds upon multi-disciplined experience and global lessons learned

Key features of CMTC:

- Draws professionals from all engineering societies,
- Brings together experts from a multitude of disciplines in carbon management technologies,
- Participation by elected officers and executive directors of engineering societies,
- A multi-disciplinary focus on critical engineering issues for mitigation of and adaptation to climate change, and
- Participation of international leaders from the public and private sectors.

Sponsoring Organizations:

The Carbon Management Technology Conference is sponsored by eight organizations:



Agreements for Sharing and cooperation – Engineers Forum for Sustainability

Engineers for Sustainability
Engineering for sustainable innovation

Sponsoring Societies Resources & Articles Events News Get Involved Contacts

POLL

Which green principle is most important to you?:

- Energy Efficiency
- Reduction of Carbon Emmissions
- Water Reticulation

VOTE

QUICK LINKS

- Upcoming Events
- EFS Newsletters

Welcome to the Engineers Forum on Sustainability!

The mission of the Forum, established in 1997, is "To help promote the principles and practice of sustainable development by: (1) providing a meeting place for interdisciplinary discussion and exchange of information; (2) identifying and distributing information on engineering education programs that incorporate sustainable development; (3) encouraging practicing engineers to apply sustainable development principles and participate in sustainable development programs and activities at local, regional, and national levels; and (4) keeping abreast of international developments that can contribute to global sustainability.

SPOTLIGHTS

» [Invitation To Register Your Innovative Solutions](#)

The Ocean Exchange The 2012 invitation for Solution

AAES
AICHE
ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS
AS EEE
AMERICAN SOCIETY FOR ENGINEERING EDUCATION

- *Sweat equity endeavor*
- *started by ASCE*
- *sustained by AICHe*
- *under Umbrella of AAES*



NSF Energy-Water Nexus Workshop

Posted Thu, 04/25/2013 - 16:51 by evanf

National Science Foundation Headquarters, Arlington, Virginia

Mon, 06/10/2013 - Tue, 06/11/2013



The workshop has reached capacity and registration is now closed

***The main room for the workshop is Stafford I, Room 375. You can see a list of the breakout rooms in the workshop program**

The objective of the Workshop on the Energy Water Nexus is to explore the most critical challenges, needs and opportunities associated with the relationship of energy and water. In particular, the workshop will examine cross-sector dependencies that introduce vulnerabilities to critical infrastructure and critical resources research that can support cross-cutting solutions that improve the relationship for both sectors simultaneously. The workshop will be organized by Mike Hightower (Sandia National Laboratories), Dr. Danny Reible (UT Austin), and Dr. Michael E. Webber (UT Austin).

Workshop Program

[Workshop description](#)

Sessions

- ▶ Water for the Power Sector: managing water demand for the production of power
- ▶ Water for Fuels Production: managing water demand for the production of fuels
- ▶ Energy for Water: managing the energy demands of extracting, treating, and transporting water
- ▶ Managing social, behavioral, policy, and economic structures to enhance water and energy use efficiencies

[See session descriptions](#)

Hotel Information

[Hilton Arlington](#)

950 North Stafford Street, Arlington, Virginia, 22203

USA TEL: 1-703-528-6000 FAX: 1-703-812-5127

A room rate of \$199 is available under the name of the NSF Energy Water Nexus Workshop. This rate is available until May 13th or until the block is filled. The group code for the room block is "EWN".

[Information on Visiting NSF](#)

Carbon Capture Utilization & Storage

An NSF Research Coordination Network (RCN)

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Mission Statement

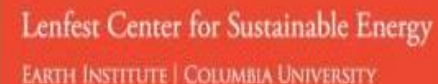
Overall Schemes of Carbon Capture, Utilization and Storage

Carbon Capture, Utilization and Storage (CCUS) is one of the greatest challenges faced by humanity that cannot be solved by simply employing traditional scientific or engineering approaches. The development of CCUS technologies as well as their implementation requires more than ever cross-cutting collaborations among natural science, engineering and social science disciplines.

Furthermore, the development of national and international policies and economic framework are also important for the significant reduction in the anthropogenic carbon emissions. The G8 recently stated the goal of achieving at least a 50% reduction in worldwide greenhouse gas emissions by 2050. To achieve this ambitious goal, we need to work together and encourage the effective rapid transfer of knowledge between participating members of the global communities.

In light of this, the RCN-SEES is formulated to provide transformative research collaborations in CCUS and facilitate research collaborations that effectively cross the boundaries of the natural sciences, engineering, and the social and economic sciences. If successful, this effort would lead to new understandings, theories, models and technologies as well as assessment tools for CCUS and their implementation plans for global communities.

Participating Institutions



[Learn More →](#)

Funded by NSF

Upcoming Opportunity

Carbon Management's Effect on Water Stress Workshop

- October 20-24, 2013
- Hilton Alexandria Old Town,
- Alexandria, Virginia (colocated with CMTC
- Chair Danny Reible
- Proposal to UEF submitted by
- AIChE, ASCE, AIME (SPE, SME, AIST, TMS), IEEE

Funded by United Engineering Foundation

Discussion

1. What is needed to advance the domain of the water energy nexus?

2. what services can professional societies provide?

3. what services can professional societies provide?

4. What should we NOT do?

Industrial Technology Alliances: Addressing Industry's Challenges of Today and Tomorrow



CCPS



CHO II



CSTP



DIPPR

CCPS & DIERS address safety

CHO II addresses pharmaceutical development & quality

CSTP & Cosmetics RT address sustainability

DIPPR addresses quality of physical
properties measurement