Water and Energy Nexus—Community of Practice

Michael Tinkleman and John Lyon

What is the problem?

- Engineers and the public are concerned about water and the generation of energy
- Water is often undervalued, and part of the price of doing business
- How much water does it take to generate a product, like a car or biofuels?
- How can we prepare to address multi-variable, multiple societal benefit issues?
- GOE/GEOSS is part of the answer.

1st Water Quality, Drought, Human Health and Engineering Conference

ASME Water Management Technology Vision & Roadmap Steering Committee Workshop Summary

- October 17, 2006
- Desert Research Institute, EPA and University of Nevada, Las Vegas, Nevada

Human Health and GEO Water Quality Community of Practice

Panel on Water Community of Practice (CP), John Lyon, Chair

- **John Lyon and Gary Foley,** EPA/ORD/NERL and NCER, "CP"
- **Steve Young**, EPA/OEI, "EPA AMI"
- **Mary Gant**, NIEHS-NIH, "GEOSS & Human Health"
- **Thomas Karl,** NOAA's National Climatic Data Center, GEOSS and NIDIS - **Owens**

Health & Water Community of Practice (CP)

GEO User Interface Committee

John Lyon and Gary Foley, EPA

2nd meeting, National Academy May 2007

- **Research** Dr. Martin Allen, AwwaRF, Dr. Ahmad Fakheri, Bradley University, Dr. Robert Goldstein, EPRI, Dr. Richard Jacobsen, Idaho State University, Dr. I. S. Jawahir, University of Kentucky, Mr. Pramod Kulkarni, California Energy Commission, **Dr. Russell LeFevre, IEEE**, Mr. John Merson, Sandia National LaboratoriesDr. Nag B. Patibandla, Rensselaer Polytechnic Institute, Dr. Darrell Pepper, University of Nevada Las Vegas, Mr. Stephen Shulder, Constellation Energy, Dr. Michael Tinkleman, ASMEMs. Katie Jereza, Energetics (facilitator)
- **Implementation** Mr. Philip Beauchamp, GEMr. Joshua Dickinson, Water Reuse FoundationMr. Michael Dimitriou, Water & Wastewater Equip Mfg. Assoc.Ms. Noha El-Ghobashy, ASMEMr. John Lyon, EPAMs. Caterina Hatcher, EPA Energy StarMs. Jane Kucera, Nalco Global Equipment SolutionsMs. Cindy Lee, National Science FoundationMs. Audrey Levine, EPAMr. Edward Osann, Potomac Resources, Inc.Mr. Gerald Sehlke, Idaho National LaboratoryMr. Terry Shoup, ASMEMr. David Weiman, Agricultural ResourcesMr. Justin Young, ASMEMr. Ross Brindle, Energetics (facilitator)
- **Education/Outreach/Training** Dr. Keith Carns, Global Energy Partners, LLCMr. Burton Dicht, ASMEMs. Katherine Hollinger, FDAMr. Raj Manchanda, ASMEMs. Stephanie Meadows, APIMr. Charles Noss, EPAMr. Kyle Schilling, ASCE-EWRIMs. Brandes Smith, ASMEMr. David Martin, Energetics (facilitator)Ms. Lindsay Pack, Energetics (facilitator)Ms. Norma Johnston, ASME

ASME

Water Management Technology

Vision and Technology Roadmap Workshop

Summary Results

DRAFT—May 2007

Prepared by
Energetics Incorporated

May 9-10, 2007
National Academy of Science
Washington, D.C.

3	**Water Supply**	١	**Sustainability; water reuse (especially industrial water reuse)**
		١	**Understanding water footprint of goods or services**
		١	Access to clean water and sanitation
		١	**Drought and unpredictable weather patterns**
		١	**Watershed protection especially in areas of urban sprawl, population growth**
		١	Imports and exports – and impact on local water region
		١	Utilizing non-traditional supplies
		١	Resiliency of water supplies to attack

How does this help GEO

- Part of the same effort, system of systems
- Some of the same people
- Gets the word out, produces synergism
- Gets real feed back on what can be addressed and tasks to do so