



AGENDA

Energy-Water Gaps Analysis Workshop March 1-2, 2006

**Wyndham Hotel
Albuquerque, NM**

Wednesday, March 1, 2006

7:30 – 8:00 am CONTINENTAL BREAKFAST

8:00 – 8:15 WELCOME AND INTRODUCTION – Mike Hightower, Sandia

8:15 – 9:00 WORKSHOP PURPOSE, SCOPE, & GOALS

Mike Hightower - Sandia,
Susan Kelley – Utton Center,
Conrad Mulligan – McNeil Technologies

9:00 – 10:45 **Need Area: Water Supply Characterization, Needs, and Monitoring**
Enhanced data collection, better monitoring technologies, climate issues and modeling, ecosystem needs and research, cost of water data, water rights sharing and leasing, fresh and brackish water resource mapping

10:45 – 11:00 BREAK

11:00 – 12:40 **Need Area: Integrated Resource Planning and Decision Support Tools**
Cooperative planning models, improved decision support tools, water and energy data collection, shortage sharing, regulatory agency integration into planning, model regional water management compacts

12:40 – 1:30 LUNCH:

1:30 – 3:15 **Need Area: Oil and Gas Produced Water Treatment and Use**
Treatment technology development, ecological impact research and monitoring, water rights issues, quantifying quality needs for utilization, models compacts for supplementing other sector water use, improved disposal and management technologies, infrastructure needs

3:15 – 3:30 BREAK

3:30 – 5:15 **Need Area: Emerging/Re-emerging Energy Resources**
Oil shale and oil sands - technology development, water contamination research
Hydropower – turbine and small hydro research, operational impacts on ecosystems research, river management decision support tools, monitoring
Renewables – Wind, solar research for water efficiency, water treatment and pumping integration

Thursday, March 2, 2006

7:30 – 8:00 am **CONTINENTAL BREAKFAST:**

8:00 – 8:15 **DAY ONE REVIEW & DAY TWO GOALS**

8:15 – 10:00 **Needs Area: Biofuels Production and Water Issues**
Improved water efficient process research, fuels studies and evaluations, thermochemical processing research, research on use of impaired waters, policy needs and support

10:00 – 10:15 **BREAK**

10:15 – 12:00 **Needs Area: Thermoelectric power generation**
Dry cooling improvements, hybrid cooling research, improved use of impaired water, improved thermal efficiency and water efficiency approaches, more ecologically benign fresh and seawater intakes, ecological impact studies, withdrawal and consumption policy evaluations, enhanced scrubbing, modeling of environmental impacts

12:00 – 1:00 **LUNCH:**

1:00 – 1:45 **Needs Area: Energy for Water**
Energy efficient treatment technologies, water reuse technologies, desalination technology improvements, improved water transportation, improved energy/water conservation policies, impaired water use policies and regulations research and modeling, energy efficiency in all water use sectors

1:45 – 2:00 **BREAK**

2:00 – 3:45 **Need Area: Infrastructure Improvements for Energy/Water Efficiency**
Infrastructure upgrades policy and regulations, electric transmission upgrades to reduce water use, infrastructure funding evaluations and modeling, water infrastructure upgrades research, co-location synergies and evaluations, regulatory agency integration into planning, soft-path energy and water research, distributed water and energy generation modeling

4:00 **ADJOURN... END OF WORKSHOP**

The general **Needs Area** discussions are being based on the results of the three regional needs assessment workshops (see www.sandia.gov/energy-water). In the Gaps Analysis Workshop, we will be trying to identify specific science and technology needs that can be addressed and implemented so that improvements in energy and water use efficiency occur and improve long-term energy and water sustainability and economic growth and security.

In the Gaps Workshop we are interested in considering all detailed ideas suggested to meet current or expected Energy-Water Gaps. This will include:

- Ideas that cover all phases of technology development and concept commercialization:
 - Including, research, development, demonstration, test and evaluation, and implementation (R,D,D, T&E, I) suggestions and ideas
- Ideas that cover any element needed to insure an improved strategy or approach can be effectively implemented:
 - This would include improved processes, new technologies, better decision models, improved sensors, improved science for policies and regulations, etc.
 - Additionally, all technical, policy, economic, and ecological and environmental research and development concepts that support approaches and insure good approached can be implemented will be considered

While the Energy Water Roadmap is focused on efforts for DOE, the Roadmap must consider issues and ideas where DOE will need to cooperate or collaborate with other agencies such as DOI, NOAA, USDA, EPA, etc. Any ideas that suggest how DOE can support or cooperated with these other agencies in developing the data needed for energy long-term reliability will be considered.

The general format for the discussion and collection of ideas will include the following matrix:

| Need Area: | | | | | | | |
|-------------------|----------------------------|-----------------------------------|--------------------------------|--|--------------------------------|-------------------------------|----------------------------------|
| Concern | Today's Performance | Near-term Goal (0-5 years) | R,D,Demo, T&E, or I | DOE Lead or Support to what Group | Mid-Term Goal (5-10yrs) | R, D, Demo, T&E, I | Long-Term Goal (10-20yrs) |
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