

Group D Needs Analysis

Salt Lake City

January 11

Data/Case Studies

- Confidential data banks
 - Need for protocols, methodology for various groups, industries, utilities to share integrated data
- **Information and analysis of complexity of overlaying authorities, regulations and policies (2)**
- Need case studies on dual use water systems and re-use of effluent stream
- Look to Europe to see how they have integrated renewables and efficiency into the grid

Modeling/Planning

- **Need to develop models, decision support tools for truly integrated systems (energy, water, air) (8)**
 - Need consistent, uniform data sets to feed models
 - Common metrics to value externalities
 - Uniform cost/benefit analysis approaches
 - Metrics/definition of drought
 - Climate change impacts on hydro generation system

Need Additional Technology RD&D

- **Conservation and efficiency technologies, polices, education (8)**
- **Integrating non-dispatchable resources into the grid (8)**
 - **Control systems, storage technologies, super conductors, DG integration, models**

RD&D Continued

- **Neutral evaluation/certification of performance of new technologies (4)**
- Support demonstration projects using new technologies (efficiency, generation)
 - Cooperate/cost share with industry and electric/water utilities

Pricing/economics/valuation

- Metrics to help establish true value of clean water
- Analysis of pricing policies and impacts on energy/water conservation

New Sources of Energy

- Install turbines at existing reservoirs that do not have power generation
- Construct LNG facilities to increase gas supply

Technology Solutions (1)

- **Development of integrated modeling tools that include air, water, energy for power demand forecasting. (5)**
- **Advanced storage technologies (flywheels, advanced superconducting batteries, compressed air, ice) (5)**
- **Develop data bank for data collection, sharing and analysis. (3)**

Technology Solutions (2)

- **Develop/deploy modular power systems for small towns (3)**
- **Aggressive public education program targeted at conservation issues. (2)**
- **Efficient air conditioner contest for industry (2)**
- **Development of remote sensing technologies for water resource assessments. (2)**

Technology Solutions (3)

- **Plant genetics and breeding for low-water use with low (eg high-salinity quality water). (1)**
- **Alternatives to conventional transportation modes in the US. (1)**

- end

Overarching Needs

- Increased data sharing/case studies
- Integrated models
- Technology RD&D
- Pricing/economic/valuation studies
- New sources of energy
- Increased funds

Voting Results

- Need to develop integrated planning models/data sharing included (8)
- Need support and development for conservation and efficiency technologies (water and energy) (8)
- Need RD&D for integration of new technologies into the grid (8)
- Need an approach for conducting independent evaluation/certification of new technologies (4)
- Information and analysis of complexity of overlaying authorities, regulations and policies (2)