

List of Project Summaries

On the second day of the conference, break-out groups met for the morning and completed Project Description Sheets for their projects. Each group decided how many and which of their projects would be presented in the afternoon plenary session and who would be their spokesperson. All project summaries are provided below, whether the project was presented in the plenary session or not.

Action

1. BGNDRF external actions for improved integrated renewable energy/water purification and desalination research and testing
2. BGNDRF internal actions for integrated renewable energy/water purification and desalination research and testing

Environmental Impacts

1. Development of cost-effective enhanced evaporation techniques
2. Conversion of concentrate stream to food, feed and biofuel
3. Development of cost-effective re powered small brackish water /wastewater treatment systems for stand-alone rural communities
4. Pilot project at schools to demonstrate renewable energy, water, wastewater systems

Project Description Sheets submitted but projects were not described during the plenary session:

1. Combining concentrate with wastewater to produce algae biofuels
2. Guidance document for selection and operation and management of small sustainable water/wastewater systems

Geothermal

1. A survey of existing geothermal power plants and direct use facilities to determine near-term feasibility to cascade geothermal and heat energy water for desalination
2. Recovery of minerals from geothermal brines
3. Development of a users' guide for assessing feasibility of geothermal technologies for small-scale, brackish desalination systems

Infrastructure

Technical and economic comparison of reverse osmosis and electrodialysis brackish water desalination units powered by hybrid wind/photovoltaic systems

Institutional Considerations

1. Guidance manual on financial implementation of renewable energy-desalination projects - options and implementation
2. Characterization of the brackish groundwater source in the United States
3. Brackish groundwater treatment technologies
4. Identify and characterize stakeholders and their role in renewable energy/desalination implementation

Solar

Design of a high yield integrated concentrated photo voltaic and solar thermal system that produces power and supports advanced water treatment of brackish water to serve remote and rural communities water and energy needs

Water Resources

1. Desalination technologies and trace contaminants
2. Tapping on unutilized waste heat energy available in power generation facilities for co-generation of water

Wind

1. Guidebook for implementation of renewable energy for desalination for small systems
2. Which high-risk wind research projects are suitable for further exploration?

Project Description Sheets submitted but projects were not described during the plenary session:

1. Hybrid wind with vertical solar for desalination
2. Capture of more atmospheric processes in wind energy assessment approaches
3. Direct use of mechanical energy from wind power for desalination
4. Grid independent green PC technology for energy optimization (patent-pending)

Audience Suggestions

After each of the eight breakout groups presented their best projects, the floor was opened to the audience to suggest projects or ideas related to the conference. The six suggestions are listed below:

1. A suggestion was made to use the excess heat from refineries to drive the desalination process, and then use the purified water within the refinery.
2. An audience member suggested moving water from the Midwest to where it is needed in the West. Wells could be used as a source to pump the excess water to the West.
3. To make the full use of water more comfortable, schools and community-scale projects could use highly purified wastewater as a drinking water source. This could be made a requirement for new subdivisions and the costs could be integrated into the development of the subdivision.
4. A concern was expressed that pumping brackish groundwater could lead to earthquakes. This could be reduced or stopped by closing the gap in the ground.
5. Pilot projects at schools are a good idea and everyone is challenged to come up with a shovel ready project using quality brackish water from existing wells. It was pointed out that the pueblos are at the front of environmental sciences and provide a good location for training opportunities.
6. The speaker pointed out that produced waters [water co-produced with oil and gas] are available in New Mexico, Texas, Colorado, and Wyoming. The water, when treated, could be used in rural communities.