



Shared Interest with Real Options: Redifer Institute's Produced Water Initiative

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Nestled between the Grand Valley's soaring Book Cliffs and the high-desert canyons of the West Slope, Colorado Mesa University faculty and students are gathering round the table to talk with oil and gas industry stakeholders and state regulators about the beneficial use of water produced from oil and gas operations. Their collaborative efforts are part of the Produced Water Initiative (PWI), developed by the Redifer Institute at Colorado Mesa University (CMU).

The Redifer Institute is a research and policy organization of the University that includes the Water Center, Center for Local Government, Natural Resource Center, Unconventional Energy Center, and the Social Science Center. These centers provide opinion research, studies, and educational programming so CMU students can gain applied field research as well as give communities a functional nexus to collaborate on issues, whether it's a Federal agency, community group, or industry.



Derek Wagner, Vice President of Intergovernmental & Community Affairs for Colorado Mesa University

PWI was conceived by the Colorado Energy Office, who pitched the project to and received unanimous support from both CMU and West Slope COGA. Derek Wagner, Vice President of Intergovernmental & Community Affairs at CMU, says, "It came about through conversation. There were a handful of operators



working out in the field who have run into regulatory and legal roadblocks that prevented them from using a little bit of common sense in terms of fluids management. The operators in the field, West Slope COGA, and the academicians from advisory committees at CMU are keenly aware of regulatory and legal hurdles holding them back."

Significant amounts of water are produced from oil and gas operations in Colorado.

In 2012, COGCC reported the total produced water amounted to over 41,000 acre-feet. This provides an important opportunity for a small but new supply of water for reuse. While it is dwarfed by water consumption of other users, produced water is large in amount when compared to the amount of water used in oil and gas operations or municipal uses. Recent estimates from Western Resource Advocates place the amount of water needed in Colorado for drilling and fracturing at up to 22,000 acre-feet per year, which is comparable to the amount used by the city of Greeley. This means the amount of produced water in the state is enough to displace all of the water used in oil and gas operations, with more to spare for other uses.

Even though recycling and reusing 100% of produced-water resource is an admirable goal, in the near term there are legal, regulatory, geographic, technical, social, and quality constraints. Technology is quickly evolving





as various projects pursue the beneficial use of produced water around the state, largely re-using water in oil and gas operations. However there is tremendous potential for growth.

While pursuing the growth of produced water is in the best interests of Colorado's water and energy sectors, there are several barriers to that growth. For example, technology must improve in order to process and clean the water to quality standards at a competitive price, and the legal and financial structures involved in water transfers under Colorado's established energy and water laws are hindering improvements.

Since Western Colorado has a long history of developing appropriate water and energy policies while balancing the diverse economic and social interests, this is the natural setting for PWI.

PWI's goals include: Reaching a broader audience about the potential for beneficial use of produced water; convening a group of informed stakeholders in the energy and water sectors; identifying policy, legal, outreach, and knowledge barriers and gaps that may inhibit the use of produced water; and developing concrete recommendations for state policy makers, educational institutions, industry, conservation groups, and local governments.

“The intent is to gather as much information as possible and develop good and usable recommendations.”

Wagner notes, “We must put all the issues on the table, have the hard discussions, and then present them in a way to policy makers so they can make any necessary changes.”



Wagner knows the best public policies come from universities, regulators, and industry working towards a middle ground. “That’s really our niche as a University. We don’t do basic research for the sake of doing basic research. We are a teaching institution that focuses on finding applied research opportunities, where we can get our students out in the field working, getting their hands dirty, solving problems, and helping fix things. This is one of those issues where two Centers intersect at a shared interest and where the Redifer Institute can bring together experts from different areas to examine issues that overlap jurisdictions, interests, and industries.”

As far as which fluid managements are best, Wagner says the Institute is ambivalent. PWI is interested in figuring out is how regulations can be more flexible while providing room for advancement. “There are a lot of different technologies, so we want to convene the group of experts to ask how we can improve technology in these areas by identifying legal and regulatory roadblocks. The objective of the Produced Water Initiative is not to create a better mouse trap as it relates to fluid management and produce water, but to get everyone together to discuss real world legal and regulatory options. And it’s a western Colorado-specific project because there are many options here, one not better than the other.”

“The oil and gas industry is vital to Western Colorado,” Wagner ends. “Whatever we can do to enhance the effectiveness of the industry, will only enhance the effectiveness of our community. The benefit for all of the above is to bring together everyone with a shared interest.”