

# ***OVERVIEW***

## **Exploring Opportunities for More Environmentally Friendly Drilling (EFD) Systems in the Uinta Basin, Utah**

*Utah State University, Sam Houston State University,  
and Houston Advanced Research Center*

### **Background: The Larger EFD Project**

The Uinta Basin project is part of a much larger national effort designed to develop and evaluate new natural gas drilling systems to reduce environmental impacts associated with energy development activities. The larger project involves a group of university scientists and stakeholders and is coordinated by the Houston Advanced Research Center (HARC), a nonprofit research and development organization dedicated to the application of innovative energy systems that promote long-term social, economic, and environmental sustainability.

*The overall mission of the Environmentally Friendly Drilling Systems (EFD) Program is to accelerate the development of new energy drilling systems and to foster dialogue among all stakeholders (the public, industry, environmental organizations, academia, and government agencies/regulators) concerning EFD systems that are or could be in use in environmentally sensitive ecosystems to produce unconventional natural gas reservoirs.* The long term goal of the EFD program is to reduce the footprint of natural gas drilling operations in environmentally sensitive ecosystems through integration of low-impact site access and innovative approaches to drilling systems operation and management. Key objectives of the larger EFD project include:

- Identify new gas drilling technology that can reduce environmental tradeoffs.
- Develop and evaluate new drilling systems that could be used for exploration and exploitation of natural gas in the lower 48 states in environmentally sensitive areas.
- Conduct case studies to illustrate best practices and identify opportunities and constraints for broader use of EFD approaches.
- Assess methods to mitigate costs and develop industry and public acceptance of viable EFD systems.
- Educate industry, public, government, environmental organizations and others about EFD practices, technologies and systems.

### **The Uinta Basin Project**

As part of this larger effort, researchers at Utah State University and Sam Houston State University are initiating work in the Uinta Basin, an area of intense oil and gas development located in northeastern Utah (see Figure 1). In the last 10 years, production of natural gas in this region has increased almost 200%. Rapid expansion of energy exploration and production has generated heightened concerns about social, economic, and environmental impacts in the region. The Uinta Basin component of the EFD program is designed to answer several core questions:

- How extensively are EFD technologies used in this region?
- What are the opportunities or constraints to the use of EFD approaches in this region?
- What are the views of regional stakeholders (community members, interest groups, industry actors, government agency staff, etc.) toward energy development, in general, and the potential use of EFD systems, in particular?

To answer these questions, the USU/SHSU team plans to conduct a series of activities over the next 2 years. These activities include:

- **Consult with diverse stakeholders** (including members of the general public, local community leaders, representatives of oil and gas companies, state and federal regulatory agency personnel, non-governmental organization representatives, and other interested individuals) who are expected to be affected by energy development in the Uinta Basin of Utah through face-to-face meetings and teleconferencing.
- **Conduct studies** to document stakeholders' level of familiarity with environmentally friendly drilling practices, and to identify barriers to the expanded use of EFD approaches.
- **Hold a workshop** to share the findings of our initial research with key stakeholders and the general public in the region. This workshop will be designed to expand dialogue among members of the general public, community leaders, representatives of oil and gas associations, regulatory agency personnel, non-governmental organization representatives, and other interested individuals with respect to the potential for greater use of environmentally friendly energy exploration and production practices in the Uinta Basin of Utah.

**UINTA BASIN PROJECT CONTACT INFORMATION:**

For more information about the Uinta Basin EFD project, please contact Dr. Douglas Jackson-Smith at Utah State University: [doug.jackson-smith@usu.edu](mailto:doug.jackson-smith@usu.edu) or 435-797-0582.

**Figure 1: Uinta Basin Energy Development Region (from USGS, 2009)**

