HARC EFD

Water Challenge Pilot
Background - Introduction

Nonprofit research hub founded in 1982
by George P. Mitchell

Provide independent analysis on energy, water, and air issues to people seeking scientific answers and to operate as a research hub finding solutions for a sustainable future.

Collaborative Program
Industry, Academia, Government,
& Environmental Organizations

Provide unbiased science to identify, develop and transfer critical, cost effective technologies for environmentally and economically sustainable energy development.
EFD Work with Industry

Field trials since 2012
Addressing the needs of all water users requires a comprehensive examination of practices, technologies, and behaviors that impact water demands, supplies, and management strategies.
Getting Started

Discussions with industry & environmental partners led to development of The Water Challenge.

Grant awarded for Pilot focusing on Permian Basin
• Test the Water Challenge
• Identify Improvements
• Industry & state regulators feedback
• Prepare to launch WC Program

...which led to the Pilot proposal...
Initial Objectives

The Water Challenge

Work with onshore O&G producers to:
- Reduce freshwater usage
- Increase use of produced water within operations
- Increase beneficial uses of produced water

The Water Challenge PILOT

Work with onshore O&G producers to:
- Reduce freshwater usage
- Increase use of produced water within operations
- Investigate beneficial uses of produced water
Getting Started

Reviewed

Previous HARC-EFD work: Scorecard, Field Trials, O&G bmp’s site, Industry Sponsors and University/National Lab Alliance members.

Industry Literature/Case Studies Reviews: Publications, Presentations, Corporate Sustainability Reports, Awards/Recognition, etc.
Industry Advisory Committee

...set the direction so that this is industry-driven, identify most applicable practices (MAPs), and recognize those that go above and beyond.

**What are the top priorities?**

**Operators Only workshop – August, 2017**

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Drilling, Completions and Production requires and yields a lot of water. Sometimes, that water can be recycled/reused. Sometimes it can’t.

**Industry has been doing this a long time, and knows the value of water.**

**Main Challenges = Logistics**

(infrastructure, timing/sequencing, transportation)
The Water Challenge Pilot

What would be big wins?

Common infrastructure
Regional collaboration

(Opportunities to share infrastructure – reduce trucks/mileage)

Identify Key Performance Indicators

Advance the adoption of expanded, voluntary water management practices while offering flexibility so that companies utilize the paths that best fit their corporate sustainability and operating priorities.
Supporting Objectives

(AKA: What can this mean do for operators?)

Operational Excellence     Continuous Improvement
Stakeholder Partnerships    Technology Development
Transparency and Communication

Complement:
IPIECA/GRI Reporting
Carbon Disclosure Project Reporting
Annual Corporate Sustainability Reporting
Industry input on...

How measurements have been/are made for:

• Baseline of water usage
• Reduction in potable water usage
• Amount of produced water used in operations
• Reduction in amount of water disposed

Programs, MAPs, goals, and/or innovative technologies that companies are currently using or evaluating.

Operators participate in the Water Challenge by implementing and reporting water management strategies that the company knows to be most effective/applicable.

*Most Applicable Practices = economical, operational, & environmental successes.*
Getting the word out on achievements...

Potential targets to:

- Reduce potable water usage
- Increase produced water usage for operations
- Reduce water disposed in wells.

Tracking of progress and documenting of program

- Engaging community, regulators and others
- Sharing results with others in & outside of industry

"In the communities’ eyes it’s not just the company — it’s the industry."
To Date...

- Toured several small producers’ sites in Midland to document processes that are addressing water issues. (We welcome more!)
- Documentation on practices/technologies in use/being researched.
- Outreach efforts to both industry and non-industry stakeholders.
- Developed website to host data (Case studies, Success Stories, Lessons Learned, etc.).
Participating helps support continuous improvement and helps set the direction of the Water Challenge Program.

Flexibility to define MAPs to achieve the following goals:

- Reducing the amount of fresh water used in operations,
- Increasing the recycling/reuse of produced water, and
- Reporting performance in a transparent manner.

**How to proceed?**

- EFD continue with full Water Challenge?
- NGO or JIP take over?
- Other ideas...

**How can this complement joint industry projects/initiatives?**
Continuous improvement is not only feasible, but also essential for both operational and environmental sustainability.

Thank you!
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