



2016 CO<sub>2</sub> Conference Theme

**December 8<sup>th</sup> 2016**  
**22<sup>nd</sup> Annual CO<sub>2</sub> & ROZ Conference**  
**Tom Williams**  
**“The decade’s value of investing in R&D”**

# Welcome!

- R&D today and in the future
- A look back at the last decade
- Consortium Model for R&D
- Future of RPSEA

*Technology drives the present understanding of formations and allows oil and gas to be produced at lower cost.*

*Technology allows probable reserves to be pushed into the proved category.*

*Technology will allow us to reduce costs and increase production because we have no other options and because we can.*

# R&D Drivers





# R&D Driver: A look back at a decade ago

NPC Study *Facing the Hard Truths about Energy* 2007: 16 years, on average, for a technology to mature from concept to a commercial project. ....because of the ever-declining investment of research related funds from the federal government, there is a burden on the oil and gas production industry to efficiently allocate research funds into worthwhile projects. Encouraged industry and government to cooperate and invest in R&D

Energy Policy Act Section 999 awarded to RPSEA, the R&D cycle has been shortened. 170 projects, +320 MM in investments = \$ savings of billions in added reserves with improvements in safety and environmental protection

It is remarkable what has transpired in the last decade!

**But - Today R&D investments is like 2007 all over again**





# Public Private partnership model

- Value in the collaborative model – returns higher than projected, shorter time from TRL 1 to 7.
- Significant improvement in productivity and success over traditional government R&D
- Measurable improvements in safety and environmental performance; provides more transparency in how we operate

# What we have learned

- Resource characterization and studies show we have tremendous reserves left in the ground
- Low recovery factors exist but can be improved
- Efficiency gains by necessity and technology
- Technology has reduced drilling costs by half
- Increasing production in completion and fracturing (more from drilling fewer wells)
- Opportunities to increase production from shales, deepwater and conventional reservoirs. (More than we have ever produced.)

# Looking Forward

- *RPSEA will continue to be an integral key in facilitating R&D in the future.*
- *Maintain the model that works, technical advisory committees = Sponsor driven*
- *Leveraged funds using more diverse Federal and Private funding*
- *Onshore and Offshore program*
- *Technology Transfer*
- *Today - similar need for investments in R&D, just as we had a decade ago.*
- *Despite the vocal critics, a changing attitude toward fossil fuels as an asset and not a liability will create opportunities for government and industry to work together, make prudent investment in research, and we can take advantage of what we have learned over this past decade.*

Be a part of the RPSEA team



Questions?

**Thank you**

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