



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



# Events Drive R&D

- Macondo
- Hurricanes and Severe Drought
- Organized Opposition
- Induced Seismic Events

Events drive public perceptions and the challenge to industry: *Invitation to Operate*

Events drive investments in research, particularly in environmental technologies and safety, much of through collaborative efforts. (States First Initiative on Induced Seismicity, the Environmentally Friendly Drilling Program and Center for Offshore Safety are great examples).

*There is no significant competitive advantage if we are not allowed to operate*

# 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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