

Interstate Oil & Gas Compact Commission 2017 Annual Conference

Technology Transfer for 21st
Century Oil and Gas

Jeremy Viscomi
Petroleum Technology Transfer Council

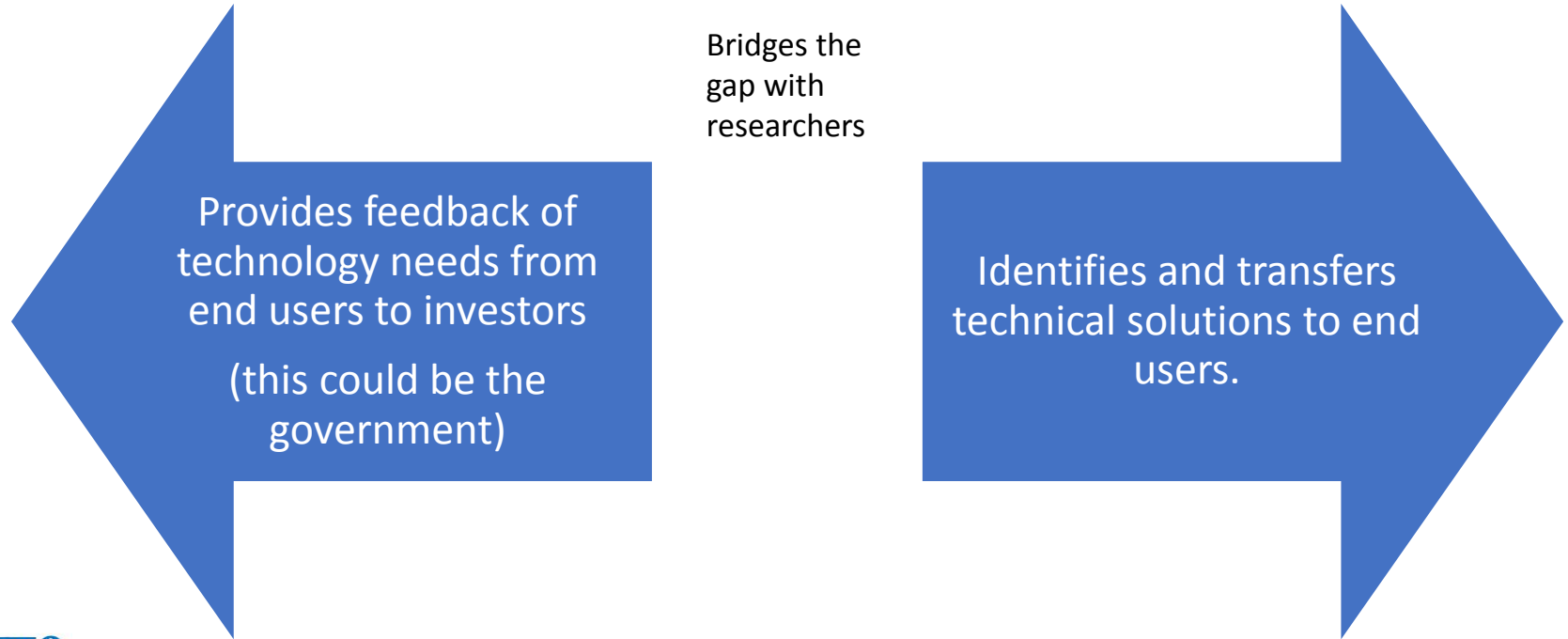
From Development to the Field



Technology Transfer



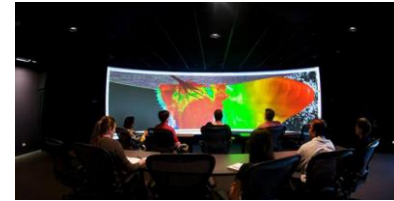
Technology Transfer Model Value Proposition



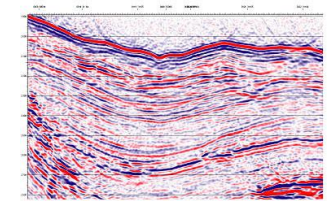
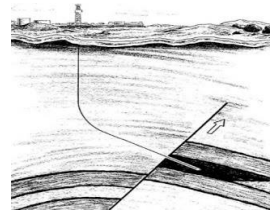
Technology Transfer

- University of Kansas Tertiary Oil Recovery Project
 - Kansas Technology Transfer Model
 - Designed to assist Kansas operators increase production
 - Problem driven matching needs with technology
- Petroleum Technology Transfer Council (PTTC)
 - Established to help independent operators make informed technology decisions
 - Grassroots with 10 regional lead organizations
- Research Partnership to Secure Energy for America (RPSEA)
 - National consortium aimed at domestic hydrocarbon production
 - All research initiatives include required technology transfer component.

Historical Innovations



1800



2020

Components: Technology Leadership

- Industry Board Lead Organization such as RPSEA and PTTC
- Multi-disciplinary Competent Pro-active Technology Transfer Staff
- Technology Champions both from End User Companies and Industry Consultants



Leadership

Technology Champion

- Technical Champion must be in the “end user’s operating ranks, preferably in the upper technical ranks” or a trusted consultant.
- Technical Champion makes sure the technical change is meaningful, impactful and long-term for the company
- Characteristics of a technical champion are:
 - Excellent communication skills
 - Creative/Innovative Problem Solver
 - A Motivator especially when there are “quick wins”
 - Be able to understand and develop Key Performance Indicators (KPI’s)
- The Champion is the voice, fighting for the companies benefit and value.

Components: Problem Identification

- One-on-One meetings
- Problem Identification Workshops
- Advice from Regional Advisory Boards
- Individuals who have active listening skills with 2-way dialogue.



Problem
Identification

Components: Demonstration Projects

For Technology Transfer to be successful it must be demonstrated and documented.

Example of this process is in the work titled: , “The Recognition and Exploitation of Residual Oil Zones”³. In the study sponsored by RPSEA and DOE researchers conducted research aimed at opening the door to new opportunities for commercial development of residual oil zones (ROZs).



Demonstration
Projects

Components: Focused Technology Workshops

- Regionally based
- Identify the technology information needs or topics of interest to their regional audience, i.e. problem identification
- Develop a plan to deliver the information
- Execute the plan and deliver the workshops.



Focused
Technology
Workshops

Components: Regional Resource Centers and Outreach

- Regional Resource Centers
- Utilization of Technology Communication Tool
 - Web-based workshops and seminars
 - Use of social media for outreach
- Continued use of in-person interactions
 - Going to where the work is being done



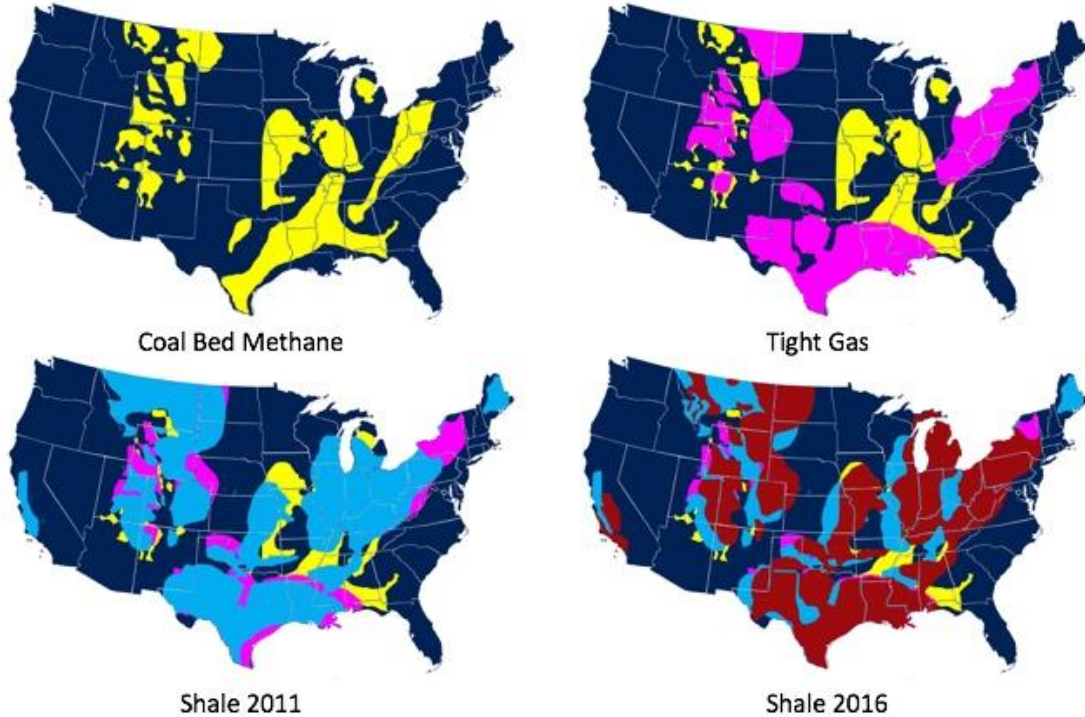
Regional
Resource
Centers

Leadership Organization Results (RPSEA & PTTC)

- 579 meetings, workshops and conferences across the US
- 12,000 participants, most at very little cost to attend
- 58 technology forums attended by over 3200 people
- 29 program technology conferences attended by 2500 people
- 6,700 participants in over 490 meetings
- 27,000 hours of volunteer effort; plus, engaged approximately 1,450 personnel (627 students and 822 staff) from
- Participated, exhibited, sponsored more than 270 oil and gas functions
- 72 universities and over 2,800 industry personnel from 455 organizations

Technology Transfer

Figure 1.0 EIA Lower 48 Technology Production Areas



Moving Forward

- Today marginal wells account for over 14% of U.S. oil production
- 600,000 shale (oil and gas wells) since the shale revolution began
 - 52% of oil
 - 50% of the natural
- Recovery factors can be below 10%
- We need to improve this recovery factor to extend the life of these wells and the life of our shale revolution
- We need to understand (through data) how quickly these wells will become marginal and what will be the impact
- We need to develop, demonstrate and transfer technologies, through research, to improve recovery factors and extend the life of the wells.

Conclusions



Questions?

Technology Transfer for 21st
Century Oil and Gas

Jeremy Viscomi
Petroleum Technology Transfer Council