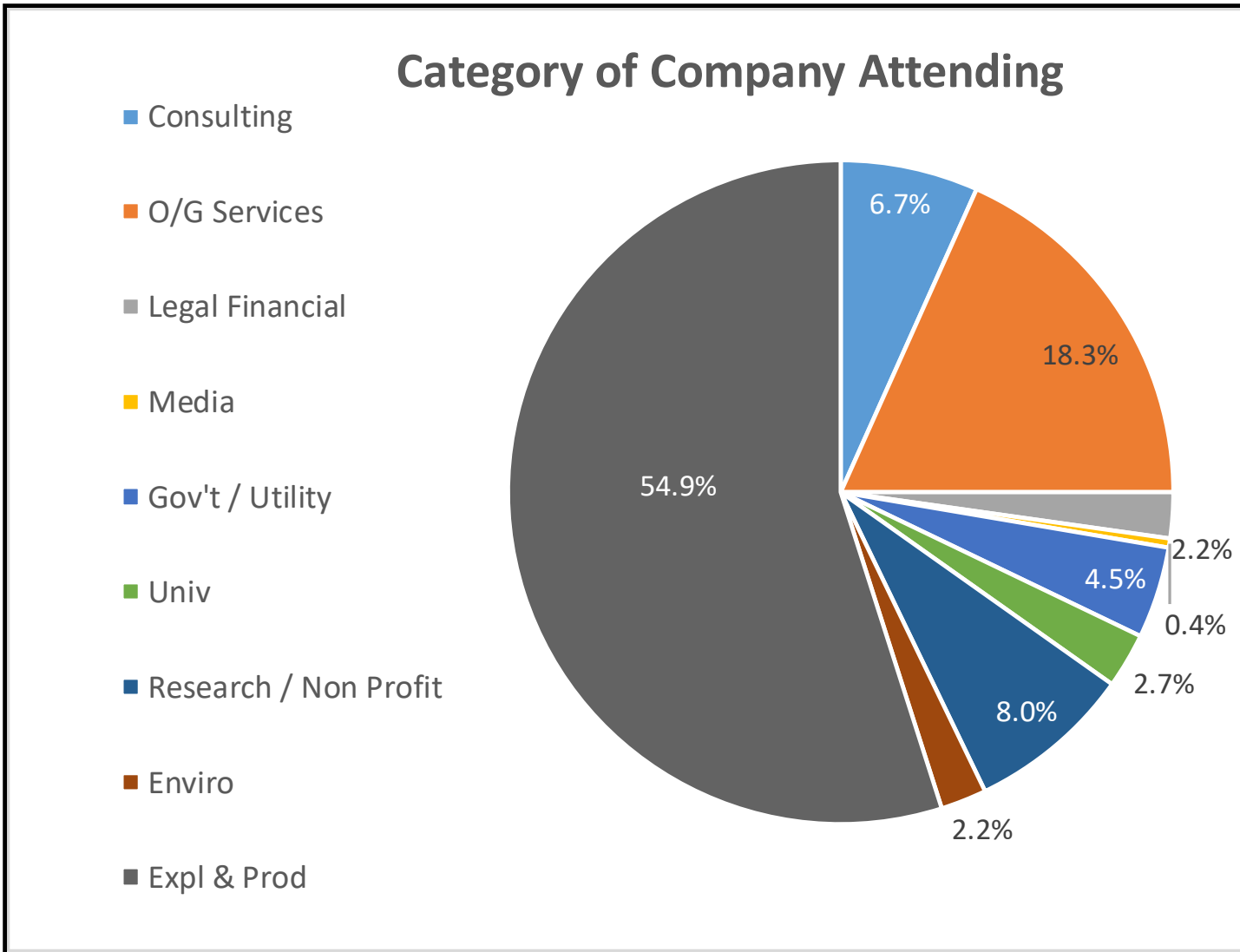




Conference Week In Midland

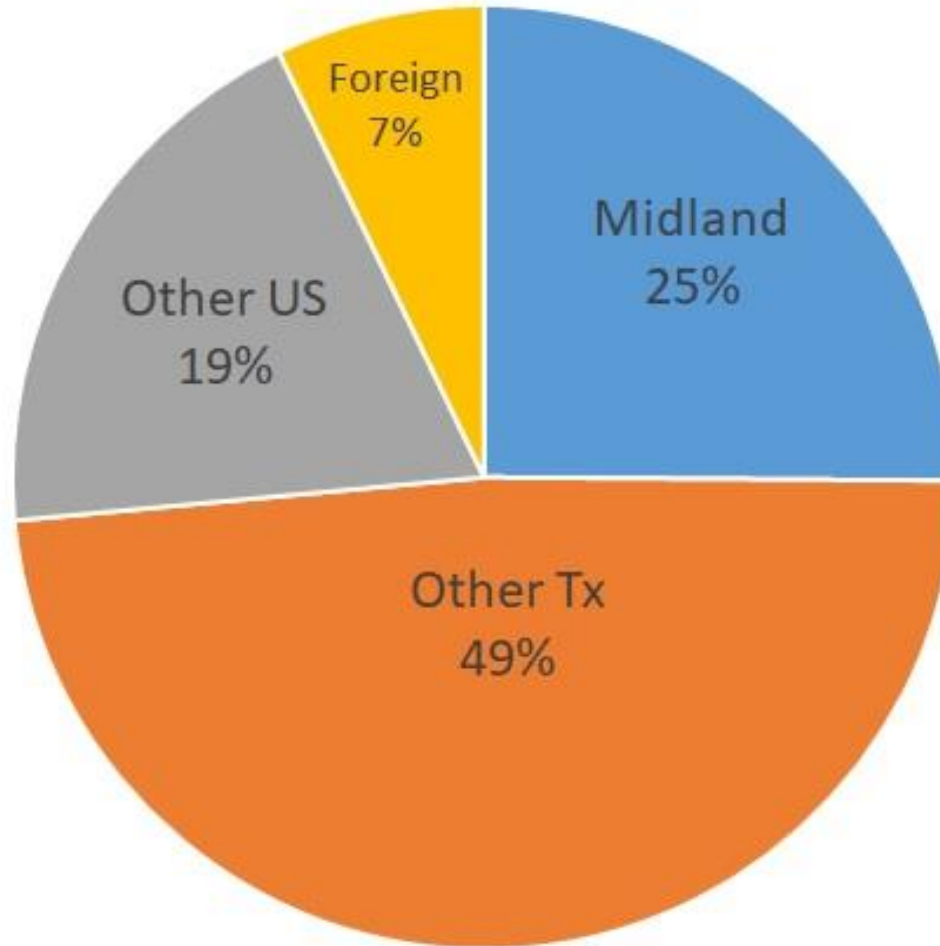
- Day 1: Monday** EOR Carbon Management Workshop with a Following Reception at the Commemorative Air Force's High Sky Wing Hangar and Museum
- Day 2: Tuesday** 45Q Seminar Followed by a Reception at the Horseshoe Facility Education Room
- Day 3: Wednesday AM** 1/2-Day Field Trip to Kinder Morgan's Tall Cotton Greenfield ROZ CO₂ EOR Project
- Day 3: Wednesday Afternoon** Horizontal San Andres ROZ Play – Update and Well Completion Advances Followed by a Reception at the Permian Basin Petroleum Museum
- Day 4: Thursday AM & PM** Sessions on CO₂ EOR Case Histories
- 5:00 PM Thursday – Closing of CO₂ Conference Week

A Quick Look at the 2018 Audience



A Quick Look at the 2018 Audience

CO₂ Conference Attendees by Location
2018 Conference



Today's Carbon Management Workshop Agenda

Morning Session

- 8:00–8:15 Opening Remarks - Michael Moore EWSA and Steve Melzer of Melzer Consulting
- 8:15-9:00 Keynote - Opening Speaker Latest on ROZ, CO₂ EOR and CO₂ Storage; Vello Kuuskraa, CEO Advanced Resources International (ARI)
- 9:00-9:30 Policy and Regulatory Updates – Post-midterm Elections; Fred Eames Partner –
Hunton Andrews Kurth
- 9:30-10:00 International Energy Status Barry Worthington, Executive Director of USEA
- 10:00-10:20 **Break**
- 10:20-10:50 Southern States Energy Board Updates; Blake Kinney, Exec Director SSEB
- 10:50-11:20 Latest on CO₂ Capture Deployment; Mike Fowler, Mitsubishi Heavy Industries
America, Inc.
- 11:20-11:40 Oxy's Low Carbon Ventures - Opportunities with CO₂ William Swetra, Oxy
- 11:40-12:00 An Anthropogenic CO₂ EOR Pure Play in a Carbon Opportunity World; Russell
Martin, Perdure Energy
- 12:00-1:20 **Luncheon** and Keynote Speaker: Charles McConnell, Former Assistant Secretary
US DOE Fossil Energy

Today's Agenda (Cont'd)

Afternoon Session

1:20 - 3:00 Projects, Programs, Technology Insights

- 1:20- 1:50 Developing the Next CCUS Project; Jeff Brown - Principal, Brown Brothers Energy and Environment LLC
- 1:50-2:10 CO₂ EOR in Shale; ROZ and MPZ developments; John Hamling, UND - EERC
- 2:10-2:30 CO₂ Storage Associated with Unconventionals/Shale; Wayne Rowe, Business Manager NA Decarbonization Projects, Schlumberger
- 2:30:3:00 Global CCS Inst International & US CCUS Developments; Jeff Erickson, GCCSI

3:00-3:15 **Break**

3:15-5:30 Special Areas of Interest and Programs

- 3:15-3:45 The Colorado Plateau CO₂ Study; Randy Eminger, ED Energy Policy Network
- 3:45-4:30 Latest on Geologic Storage Panel; Grant Bromhal NETL/NRAP and Dr. Sue Hovorka UTBEG/GCCC
- 4:30-5:00 The PBS/EERC & Bell Creek CO₂ EOR & CCUS Story; Dan Cole, V.P. Denbury
- 5:00-5:30 Importance of 45Q and Large-scale CO₂ EOR-Storage; Mike Godec, ARI
And Wrap-Up and Pre-45Q Seminar Panel; Mike Moore, Steve Melzer, Dan Cole, Mike Godec

5:30 **Monday Program Conclusion**

Bus or Car to Commemorative Air Force High Sky Wing Hangar and Museum

6:00-8:00 **Reception**

A Brief Look at CCS & Carbon Management Through the Last 25 Years

Steve Melzer and Mike Moore

Carbon Management

Where Did We Start?

- In the 1990's as CO₂ Emissions were being Heavily Touted as a Cause of Global Temperature increases
 - CO₂ Capture & Storage was a Rage
 - Deep Saline Reservoir Injection was to be the Answer, CO₂ EOR was not Considered a Solution
 - CO₂ EOR was a “Niche Industry” of Little Count in the Greater Scheme of Carbon Emission Reductions
 - Besides, it only Stored Half the CO₂ Volumes Injected

*We'll Come Back and Look at Both those **Myths***

Carbon Management

How Far Have We Come?

Part 1

- Carbon Management Workshop (First on the Scene) and Other Conferences Organized to Alert Interested Parties
- Some States and EPA Began to Address CCS Regulatory Oversight
- CO₂ Capture was Found to be Very Expensive
- U.S. Carbon Emissions Trading was Widely Proposed but Did not Fly
- All Deep Saline Injection Projects were Government Driven and Limited in Scope and Volumes. The Projects had Some Technical Success Internationally and in U.S. but were Very Expensive

Carbon Management

How Far Have We Come?

Part 2

- CO₂ EOR Worked Back into Consideration but Still Found Resistance and Even There, with its advantage of 'by-product' oil production, Needed Help Economically
- In General, CCUS Began to be Considered Very Viable as an Approach to Offset Much of the Cost of CO₂ Capture
- Huge CCUS (EOR) Sinks Emerged to Break the Myth of Limited Sites to Store
- Many Began to Realize that CO₂ Storage during EOR was nearly Equal to the Purchase CO₂ Volumes **(Not Half)**
- U.S. Group(s) Organized on the Basis of CO₂ Capture Needing an Incentive (e.g., NEORI) with Foundation Funding

Carbon Management

Where Are We Today?

- Reservoir Targets with Large Volumetrics Identified with Commercial Projects Underway (& in Planning), Demand for CO₂ far Exceeds Available Supply
- Regulatory Rules are Being Established
- Amended 45Q Passed in February 2018
 - Removed Limits on Volumes Allowing Projects to Count on Receiving the Incentive
 - Recognized CO₂ EOR as a Valued Contributor
 - Upped the Value Proposition of the Capture and Storage to a Significant Level
- Currently Examining the ‘Devil in the Details’

Proven Reservoir Targets, Capture & Incentives - Are the Stars Aligning?