

Perspectives on Natural Gas Supply

Randy Couch

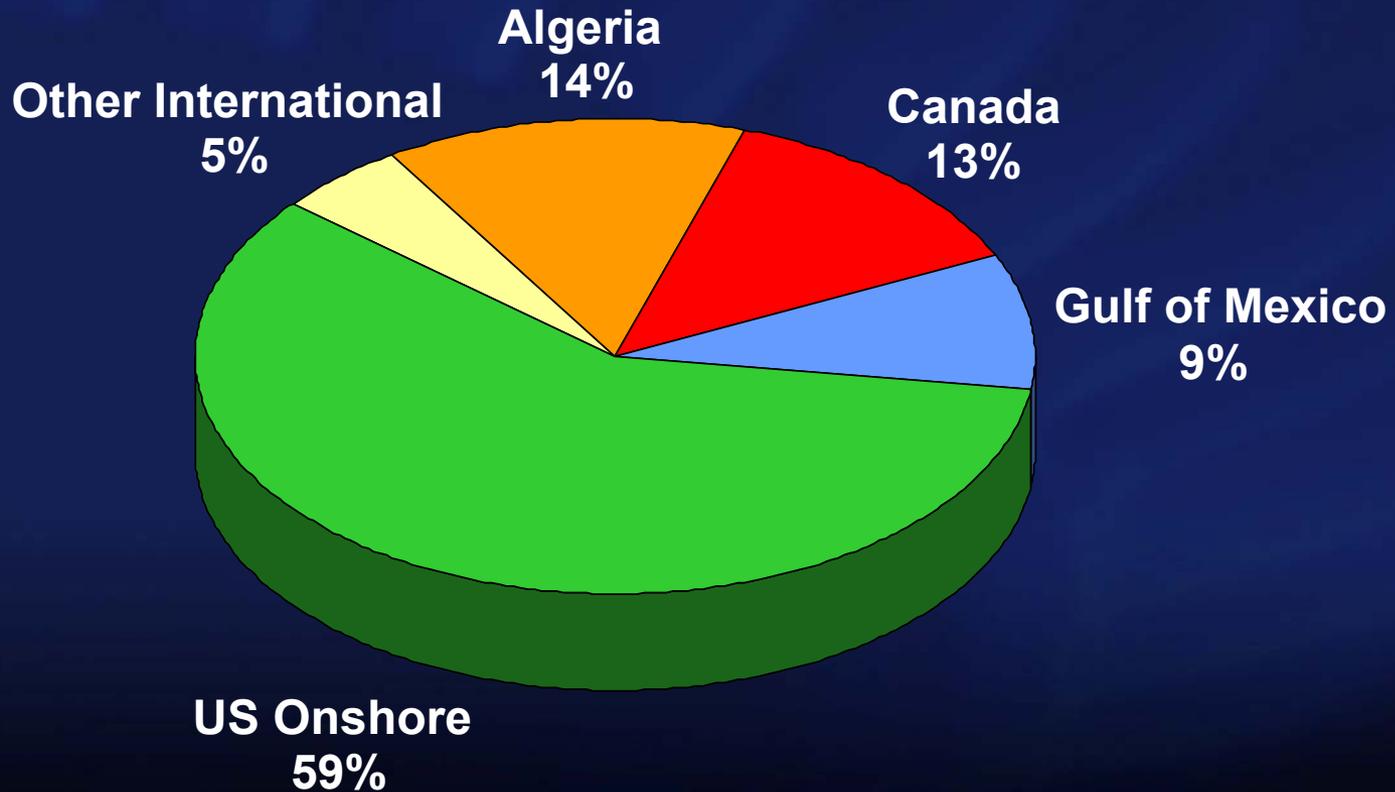
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General Outline

- Anadarko Updates
- Industry Perspectives
- Technology Advances

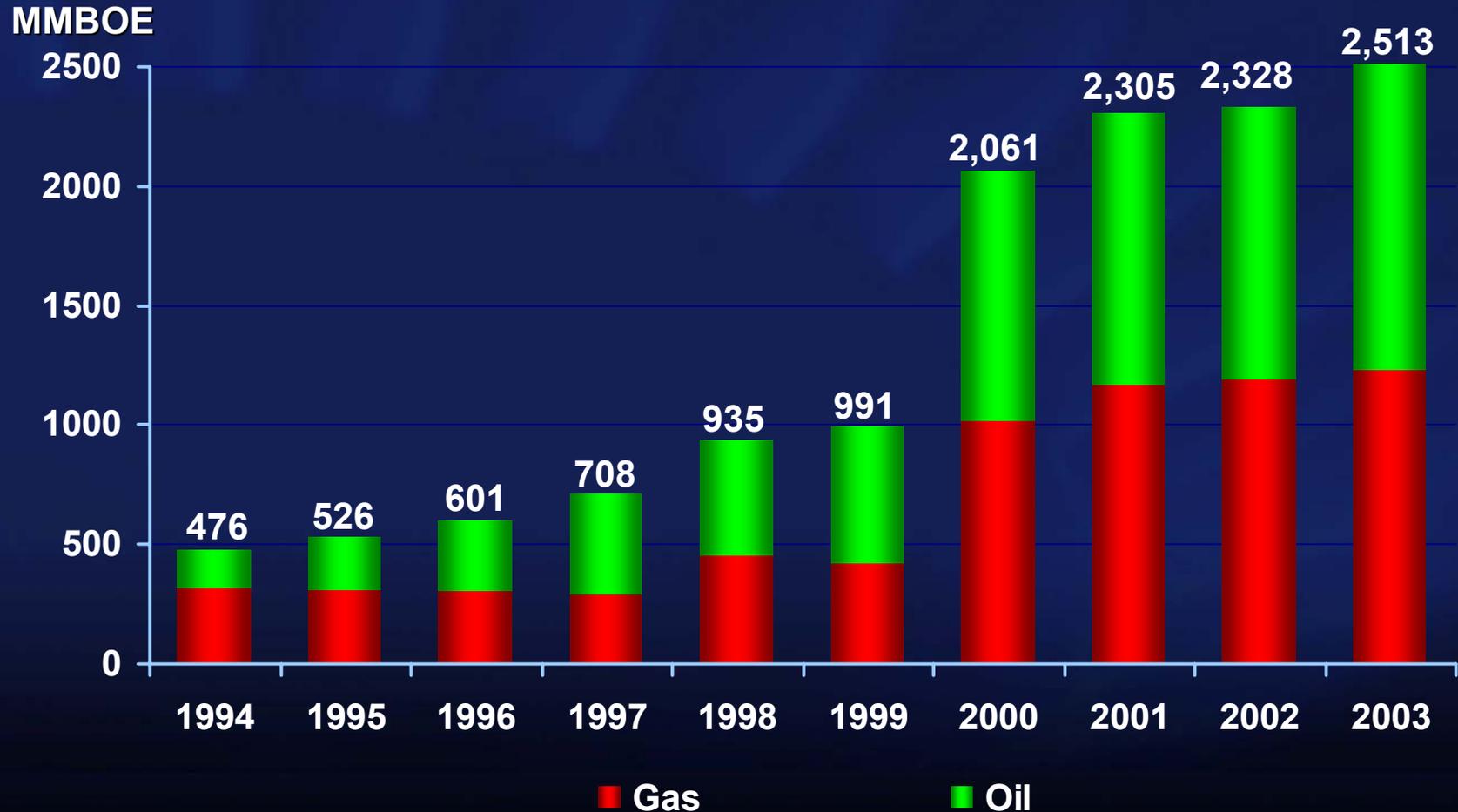
APC Proved Reserves (MMBOE)

2,513 MMBOE = 1,727 MMBOE Developed + 786 MMBOE Undeveloped

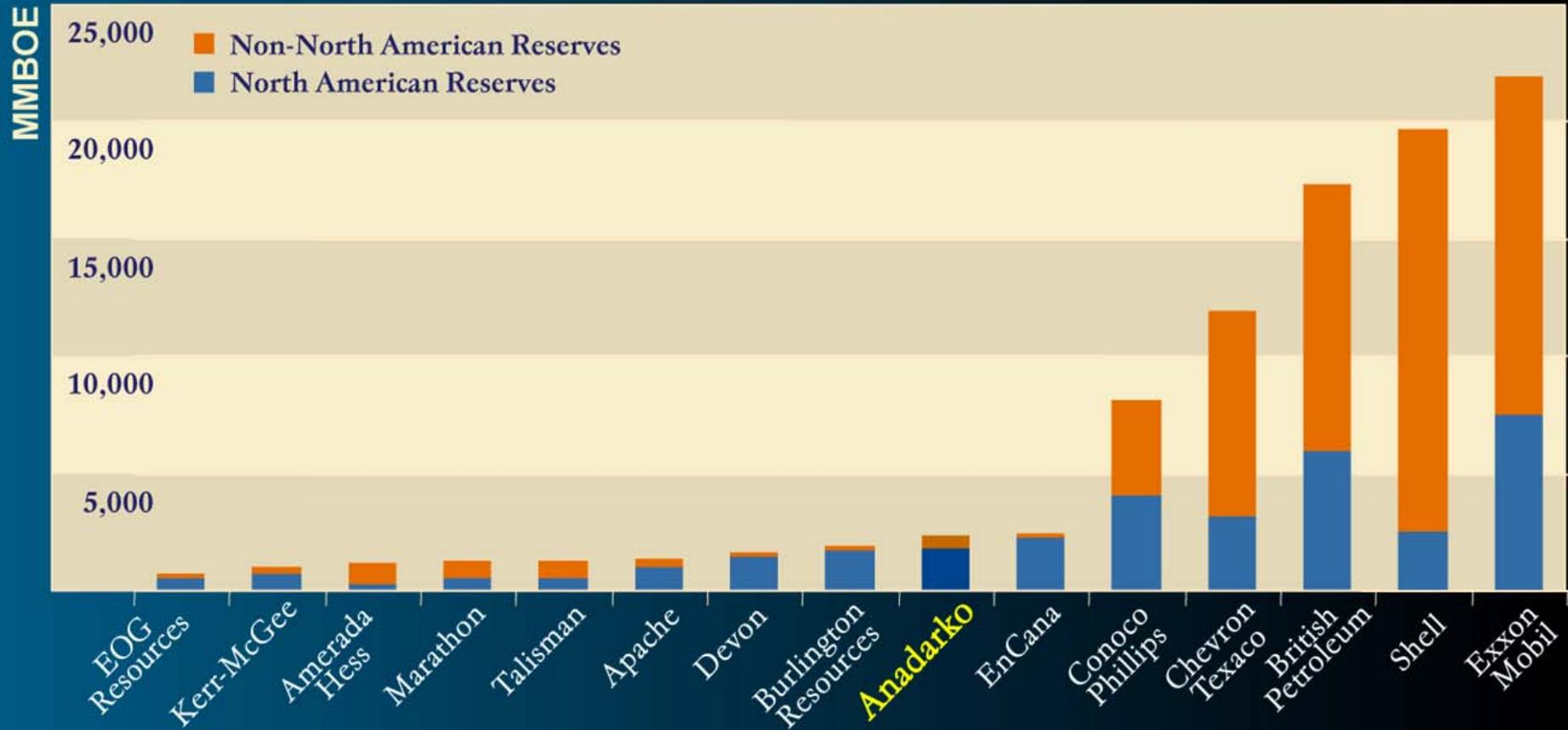


Reserve Growth History

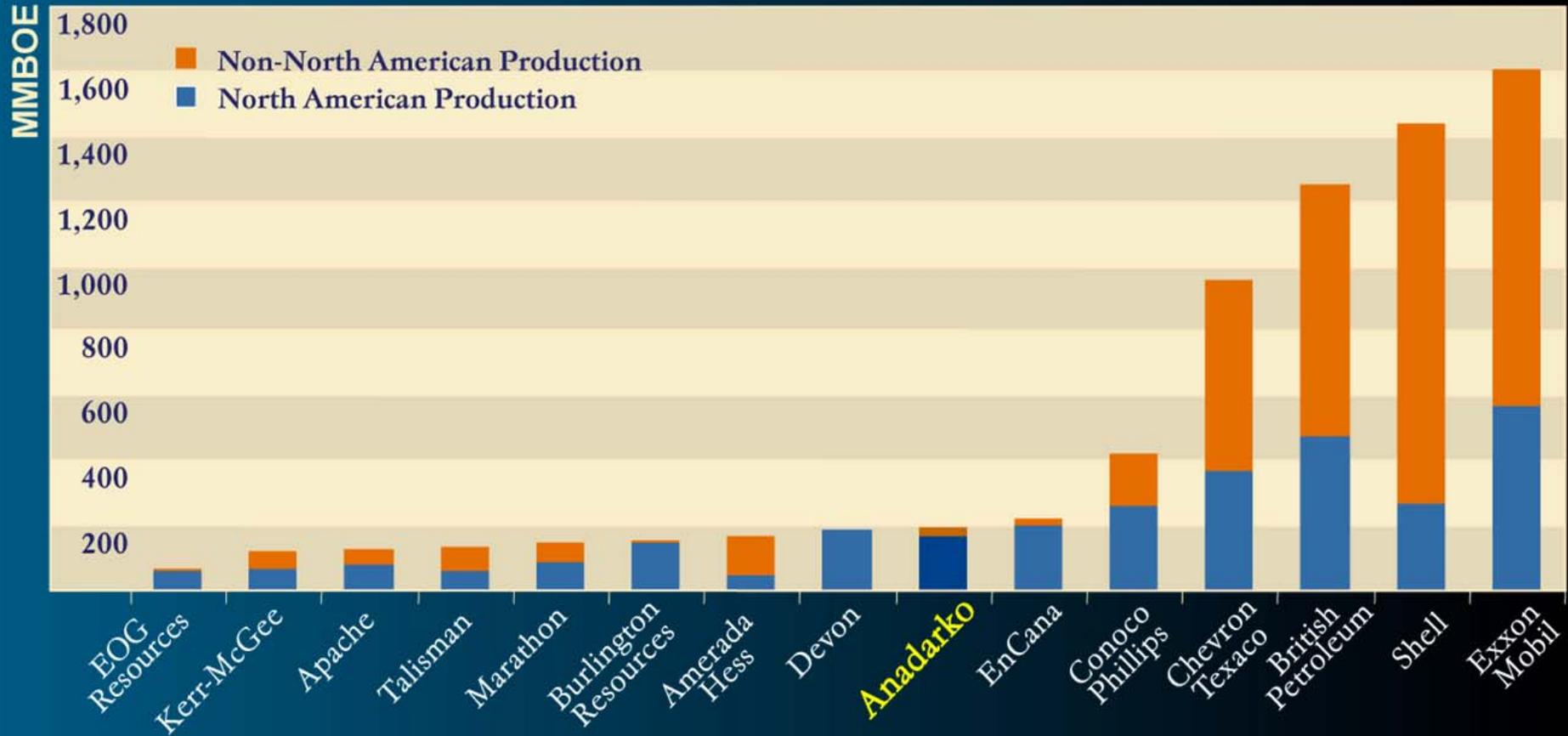
Anadarko has achieved an unmatched record of proved reserves growth, building a portfolio that is almost equally balanced between natural gas and oil.



Worldwide Reserve Ranking



Worldwide Production Ranking



Worldwide Asset Base

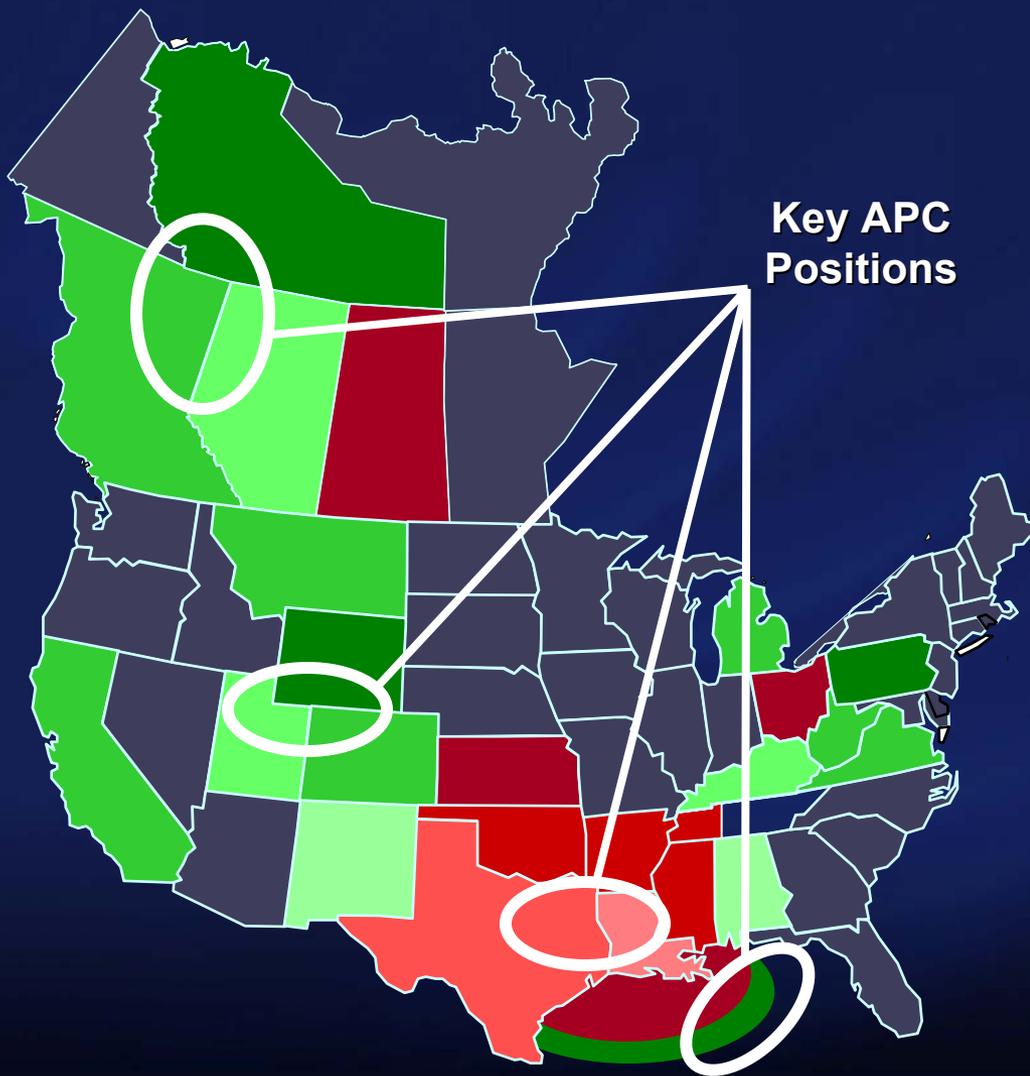


New Frontiers – New Opportunities

North American oil
& gas production
landscape is in
transition.

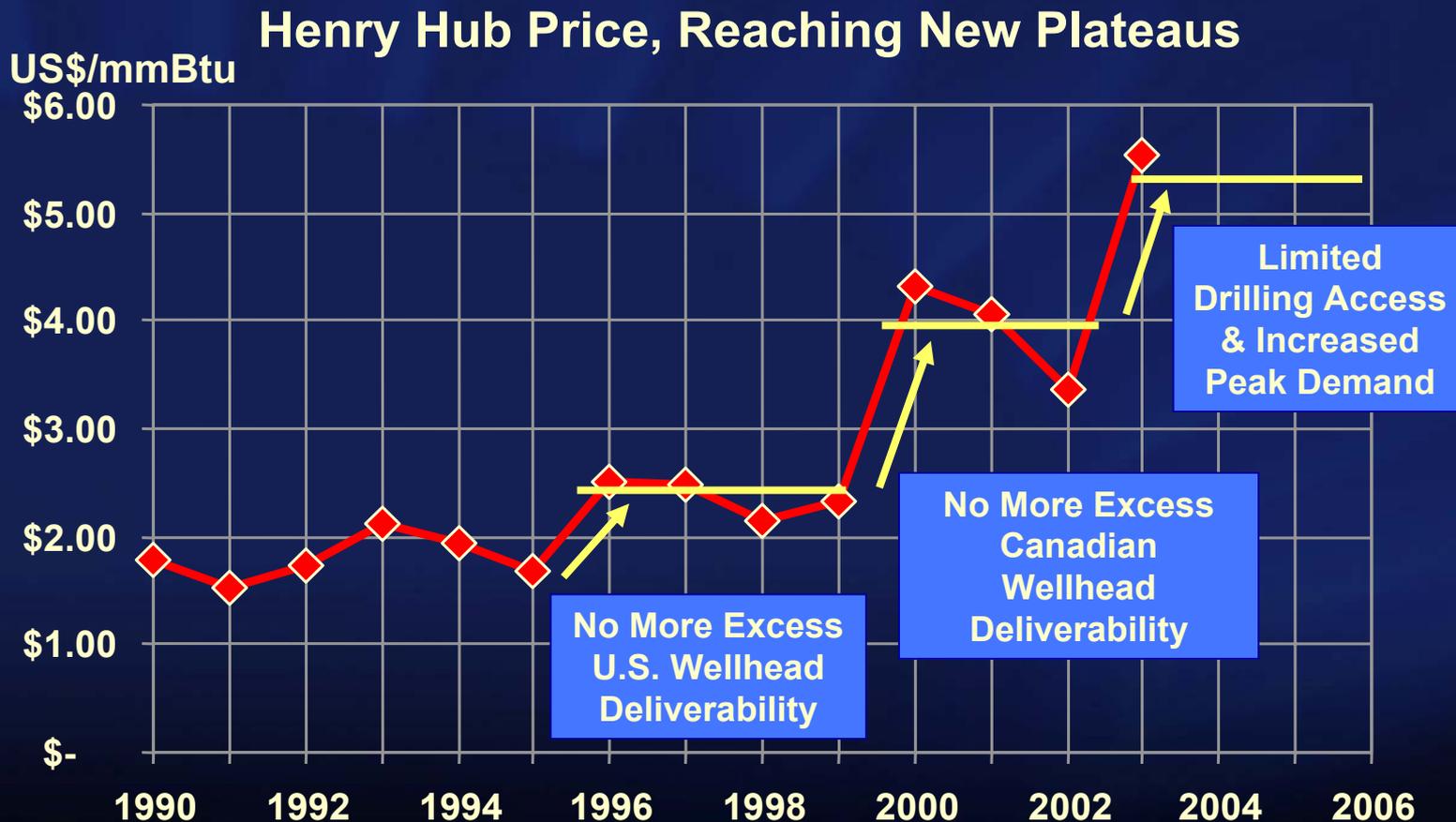
Change in Gas Production:
1995 vs. 2000

- Light Green: Increase
- Dark Green: Greater Increase
- Light Red: Decrease
- Dark Red: Greater Decrease



Three Step-Changes in Gas Price

- Price cycles rising to bring more expensive resources on stream & reduce demand pressure



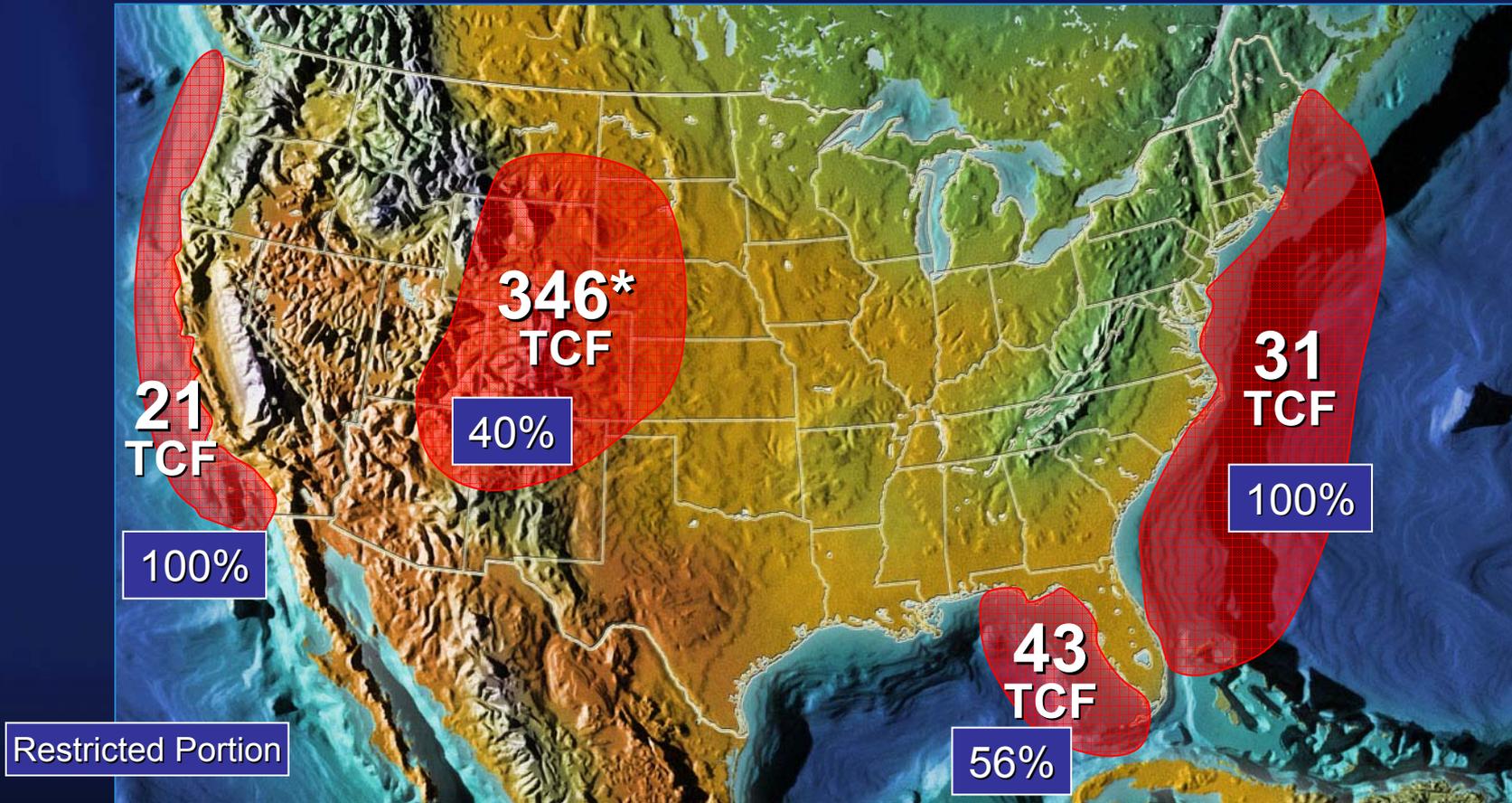
Source: NYMEX

Findings on Natural Gas Supply

- Traditional North American producing areas will provide 75% of long-term U.S. gas needs, but will be unable to meet projected demand
- Increased access to U.S. resources (excluding designated wilderness areas and national parks) could save consumers \$300 billion in natural gas costs over the next 20 years
- New, large-scale resources such as LNG and Arctic gas are available and could meet 20-25% of demand, but are higher-cost, have longer lead times, and face major barriers to development

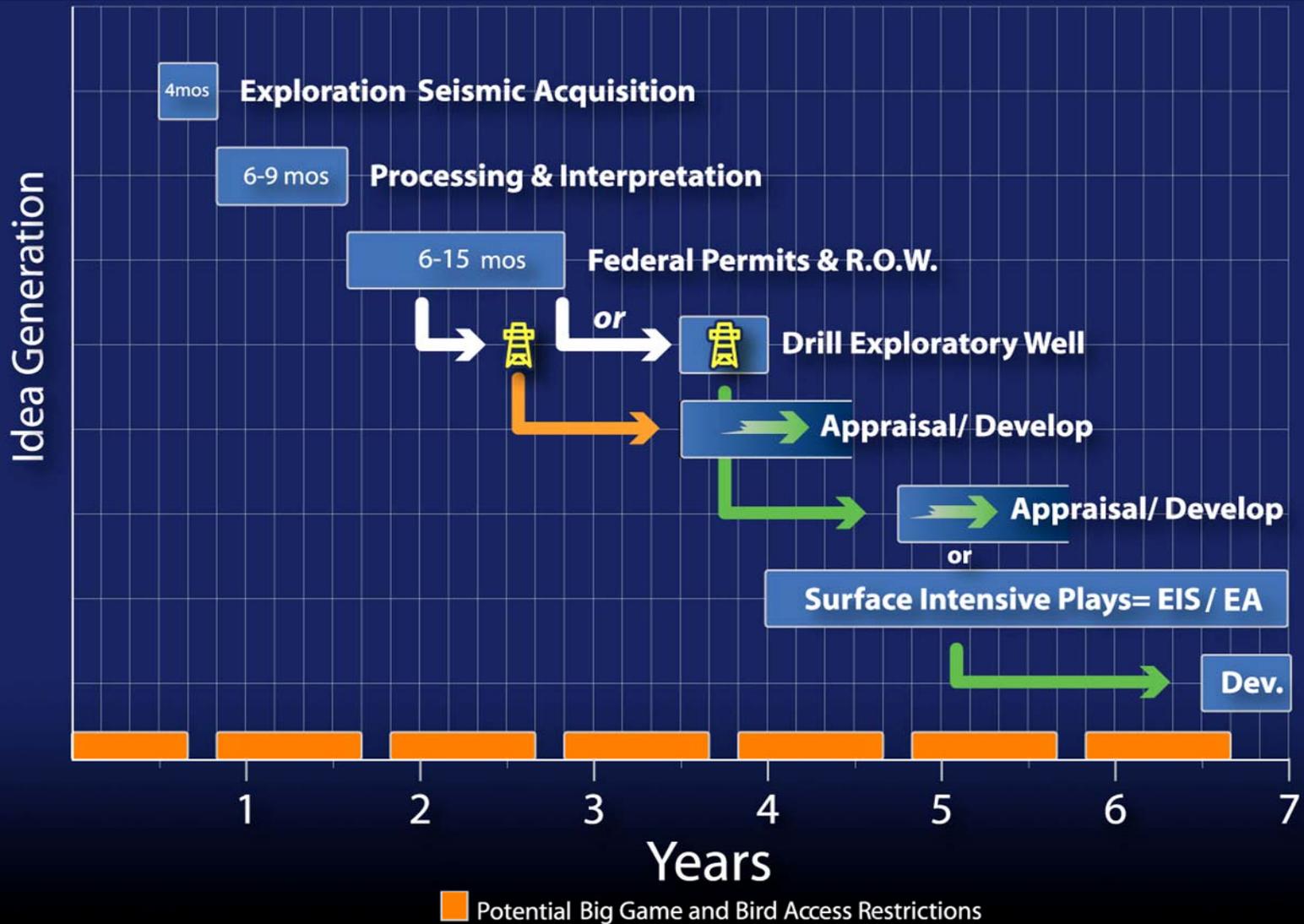
Land Access Restrictions

U.S. Lower-48 Natural Gas Resources Subject to Access Restrictions



**Approximately 29 TCF of the Rockies gas resources are closed to development and 108 TCF are available with restrictions.*

Faster Permit Approval



Technology → *Efficiency* → *Production*

- The Domestic Trends are Toward
 - *Increasing demand for energy*
 - *Continued decline of domestic reserve base*
 - *Experienced employee base in decline*
 - *Limited number of drilling & service fleets*
- To meet increasing demand with decreasing resources, more efficiency & new technology must continue to be developed & deployed
- Public demands more energy recovery with less environmental impact

Drilling Technology Reduces Surface Footprint

- Wells today reach reservoirs “unreachable” 25 years ago:

- Directional Drilling – Recover resources under sensitive topographic or populated areas*

DIRECTIONAL DRILLING

- Horizontal Drilling – More efficient recovery of resources from 1 well bore*

HORIZONTAL DRILLING

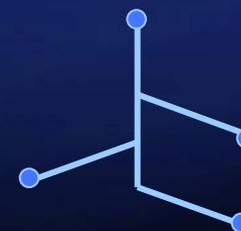
- Extended Reach – Drill from remote area to recover resources under a visible area*

EXTENDED REACH DRILLING

- Pad drilling, multi-lateral drilling – 1 drill site can replace 2, 3 or more drill sites*



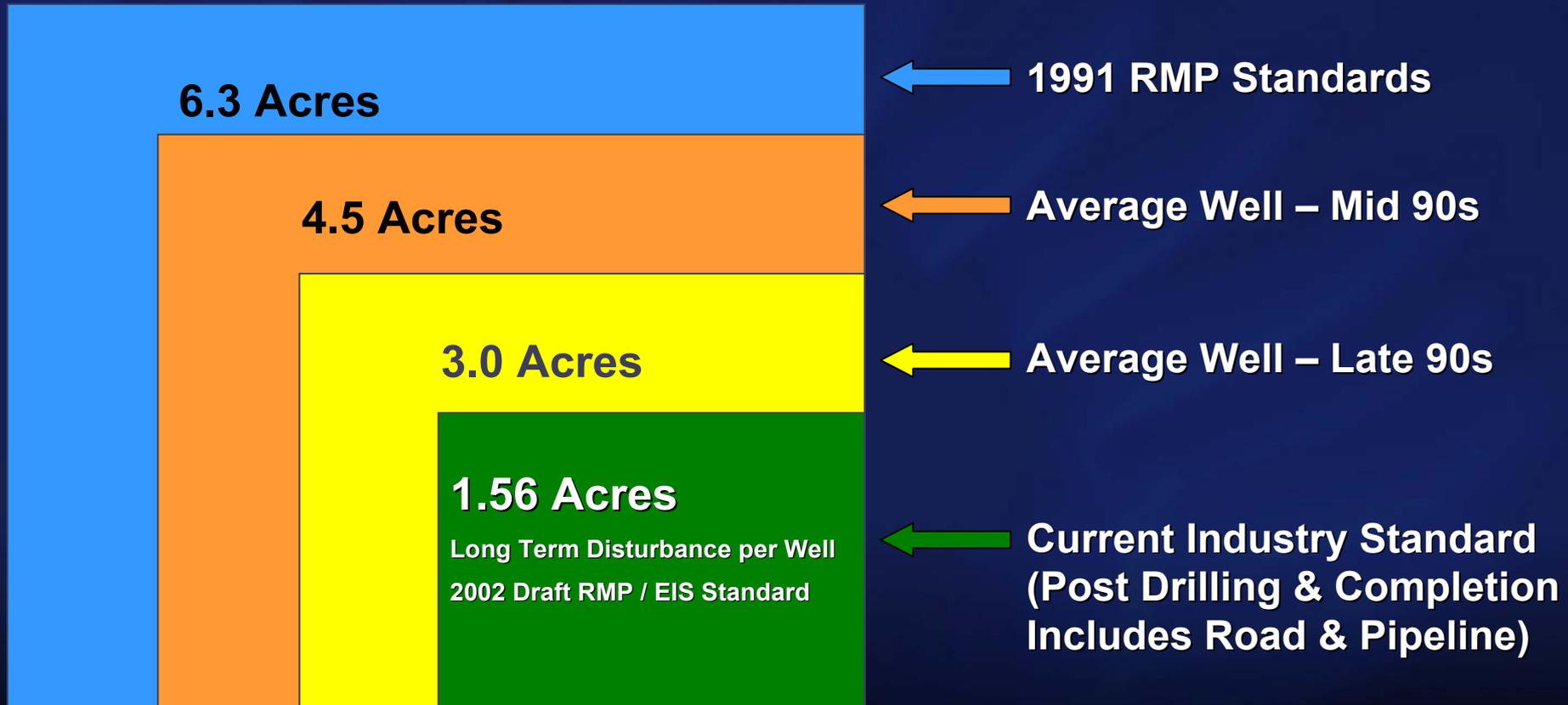
PAD DRILLING



MULTI-LATERAL DRILLING

Technology Supports & Improve Drilling While Leaving A Smaller Footprint

(San Juan Basin Example)



Source: Burlington Resources

Technology Unlocking Tight Gas

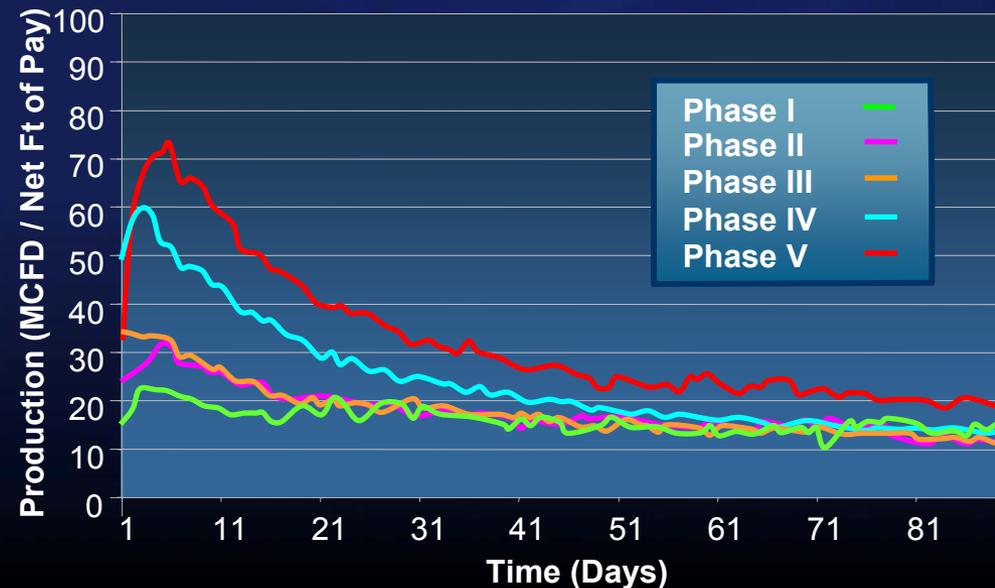
- Development costs reduced by 30%
- Drilling time cut in half
- Improved fracture technology more than tripled peak production
- APC operated production in East Texas, Carthage, & Vernon has grown 15% since 1997

N. Louisiana Bossier Development Wells

Avg Days From Spud (2001 - Present)



East Texas Fracture Stimulation Evolution



Working Together for Solutions



Conclusions

- Gas supply growth challenged in North America
 - *Can only realistically expect 75% supplied from North America in the future*
 - *Alternatives will be higher cost, technologically challenged, and have longer lead times*
- Industry working hard on two frontiers
 - *Technological & Geographic*
- Keys to continuing success
 - *Improved access to less mature basins*
 - *More efficient permitting & regulatory approval*
 - *Continued investment in technology*
 - *Accelerated infrastructure development*