Shale: Swing Supplier or Bridge Fuel?

Jamie Webster, Fellow
@websterdrake

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The Swing Supplier Test

Test 1:
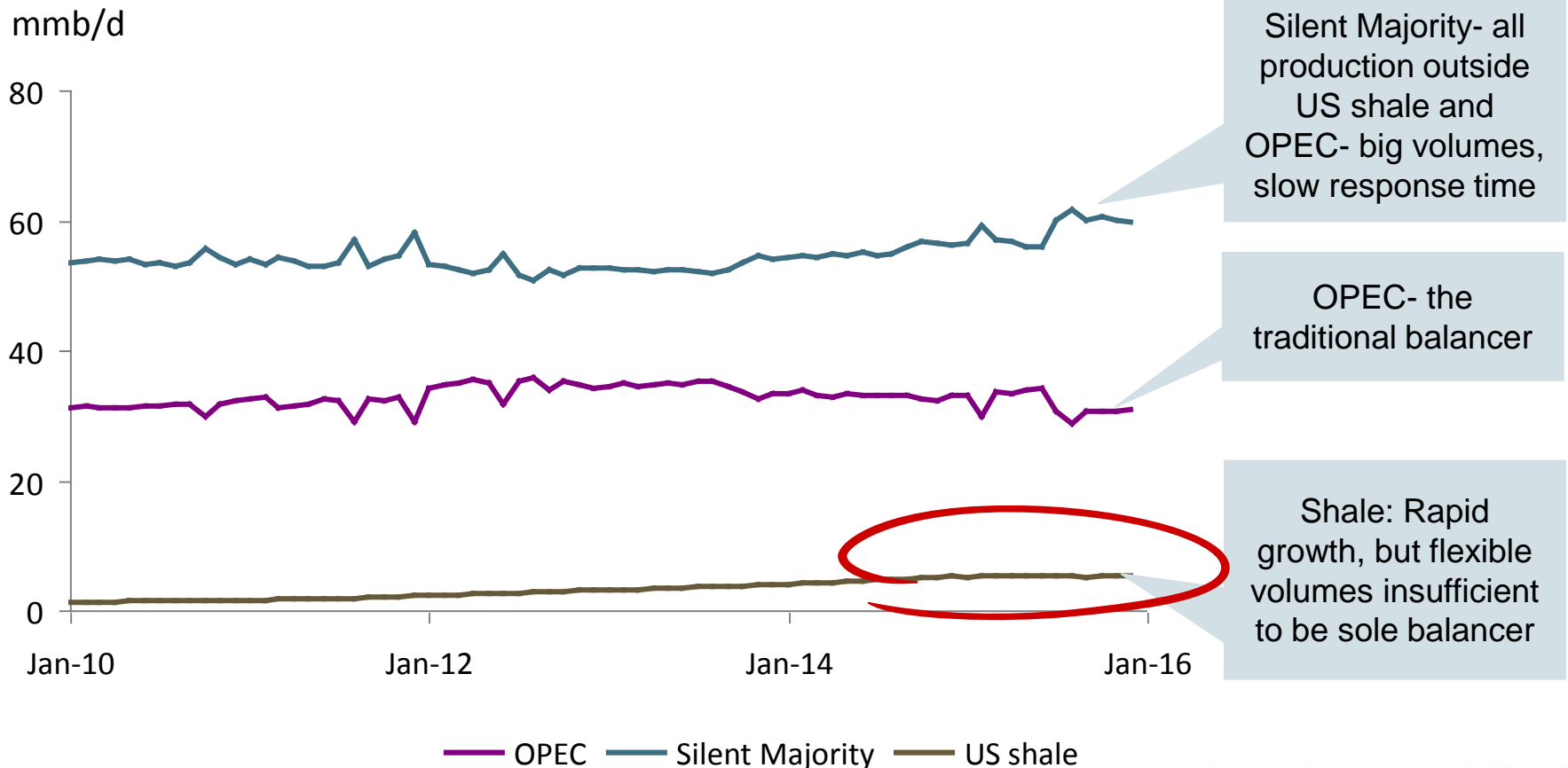**Sufficient flexible volumes to counteract differences in supply demand**

Test 2:
Ability and willingness to be first supply mover when needed

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Swing supplier test 1: Sufficient flexible volumes to counteract supply demand differences?

Shale in context: A small part of global supply

mmb/d

Silent Majority- all production outside US shale and OPEC- big volumes, slow response time

OPEC- the traditional balancer

Shale: Rapid growth, but flexible volumes insufficient to be sole balancer

— OPEC — Silent Majority — US shale

Assessing the sufficiency of shale supplies

OPEC spare capacity against shale production
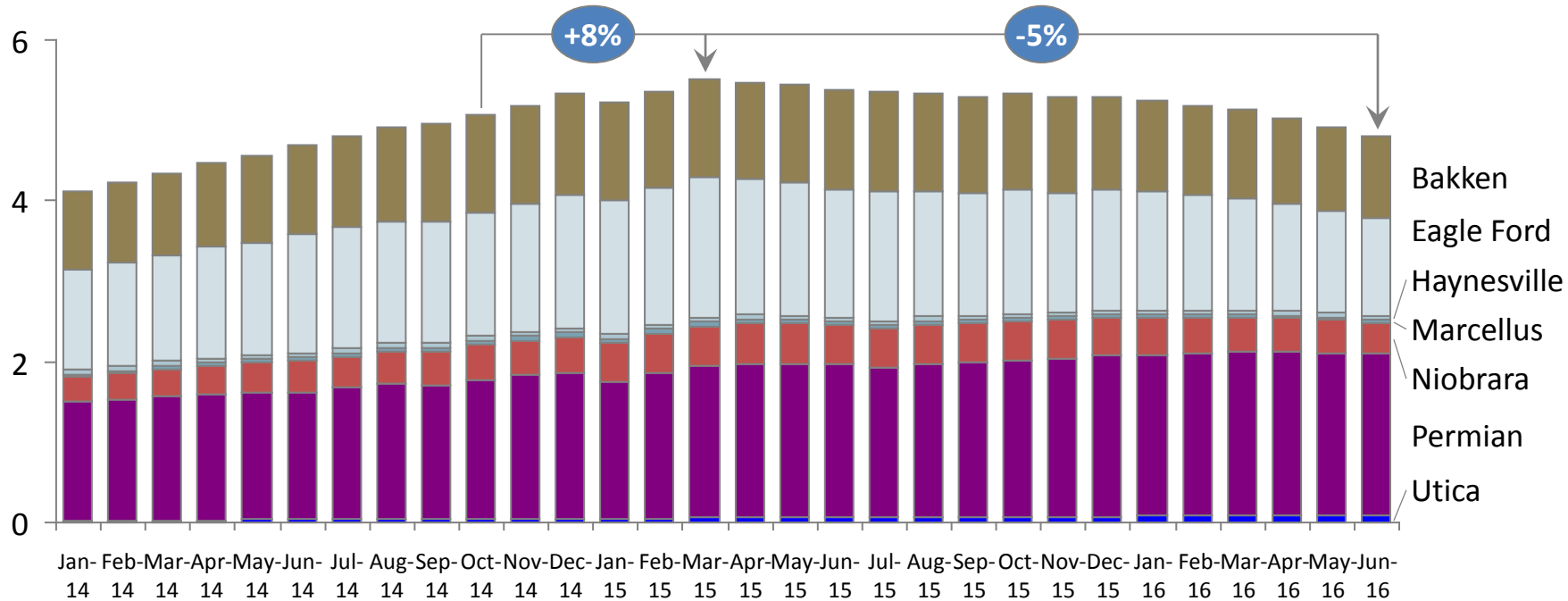
mmb/d
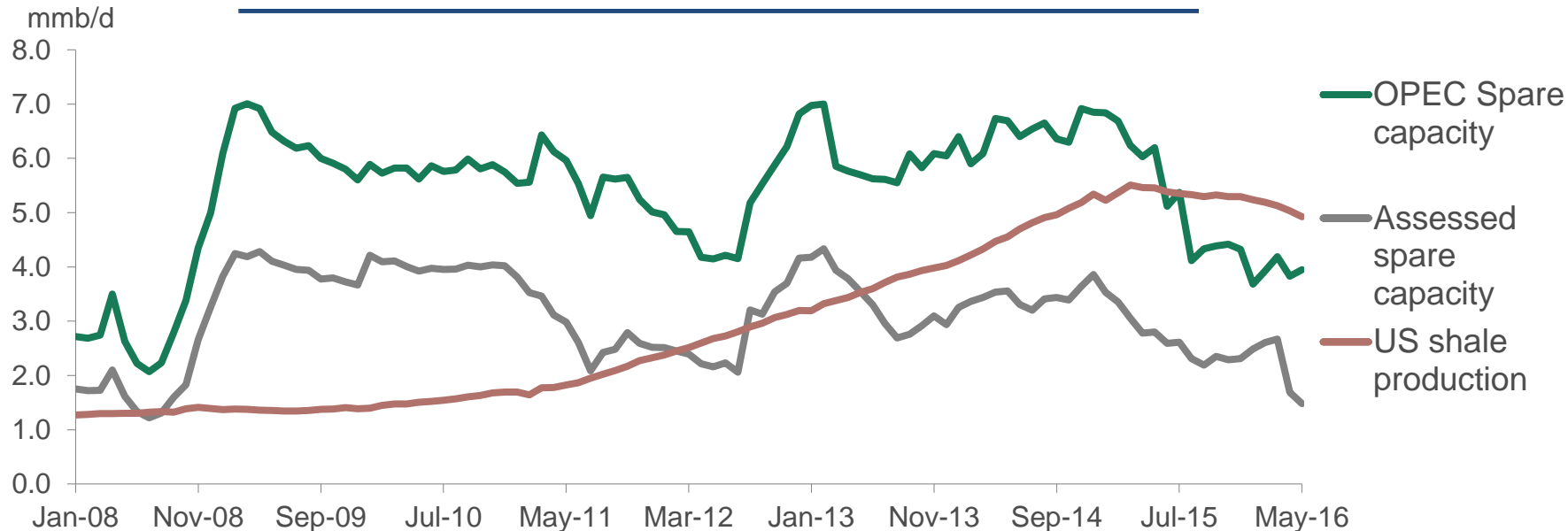
Source: EIA, OPEC, JODI

Shale has grown, but still too small, slow on its own

- Shale production is now above any measure of OPEC spare capacity
- Even in the fastest growth years, it took shale 3 years to gain enough volumes to equal assessed spare capacity- faster than conventional but too slow to keep market steady

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US shale production took ~6 months to halt growth

mmb/d

Source: EIA

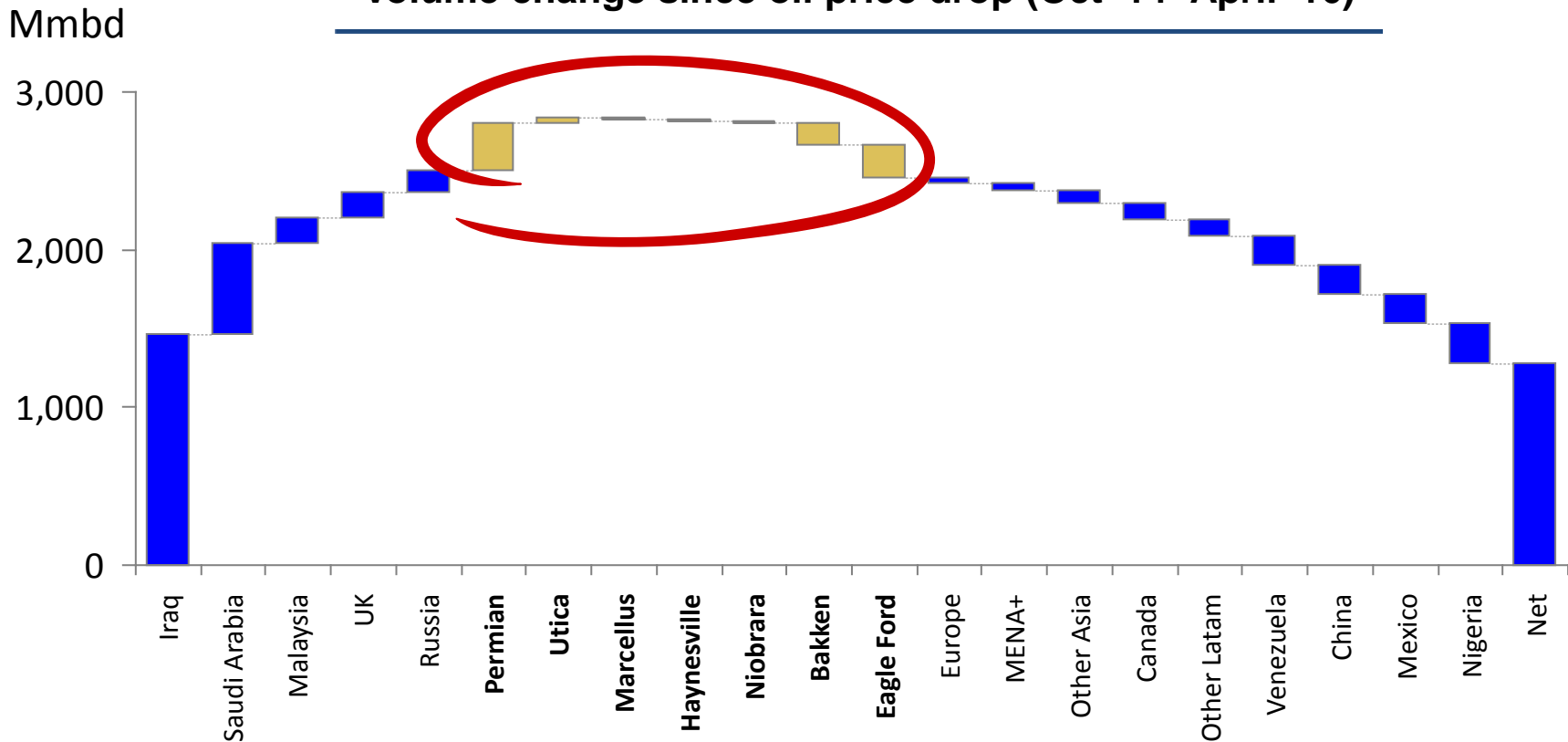**The slow slowing of US shale**

- After oil price drop accelerated in Oct '14, shale production grew another ~0.4 mmb/d through Spring '15
- Net production change since price drop is 0.27 mmb/d
- Global oversupply over this time reached >2.0 mmb/d

Swing Supplier Test 2: Ability/Willingness to be First Mover The global context

Volume change since oil price drop (Oct '14- April '16)

Mmbd

Categories (x-axis): Iraq, Saudi Arabia, Malaysia, UK, Russia, Permian, Utica, Marcellus, Haynesville, Niobrara, Bakken, Eagle Ford, Europe, MENA+, Other Asia, Canada, Other Latam, Venezuela, China, Mexico, Nigeria, Net

The swing supplier is multipolar- not unipolar = greater uncertainty, volatility and market complexity

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Stock builds absorbed the oversupply

Commercial inventories

US

Mbbl

1,400

1,200

1,000

+306 Mbbl
(+29%)

Jan-14　　　　Jan-15　　　　Apr-16

OECD

Mbbl

3,200

3,000

2,800

2,600

+543 Mbbl
(16%)

Jan-14　　　　Jan-15　　　　Apr-16
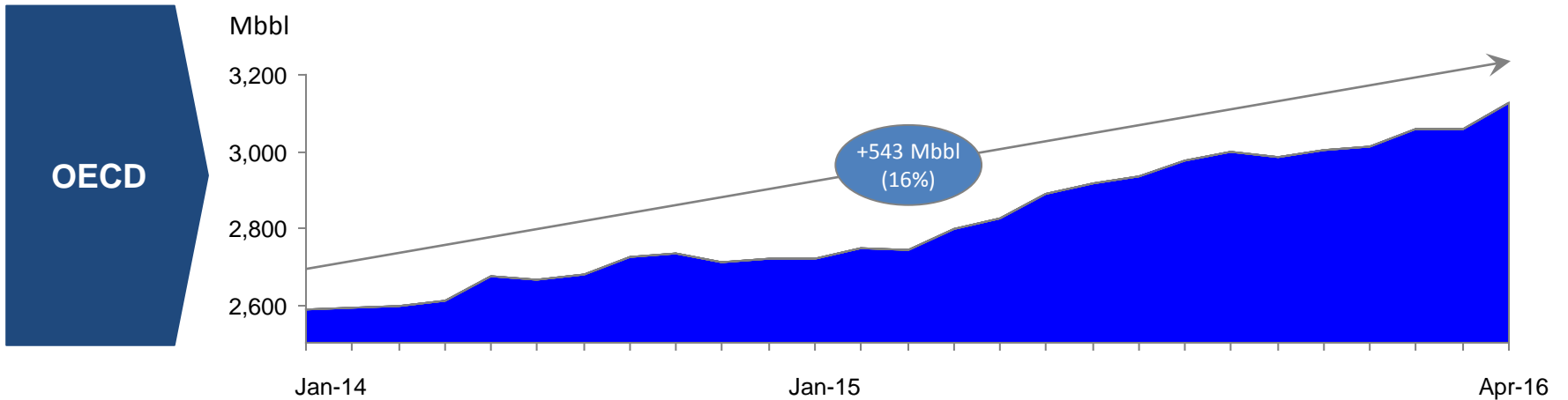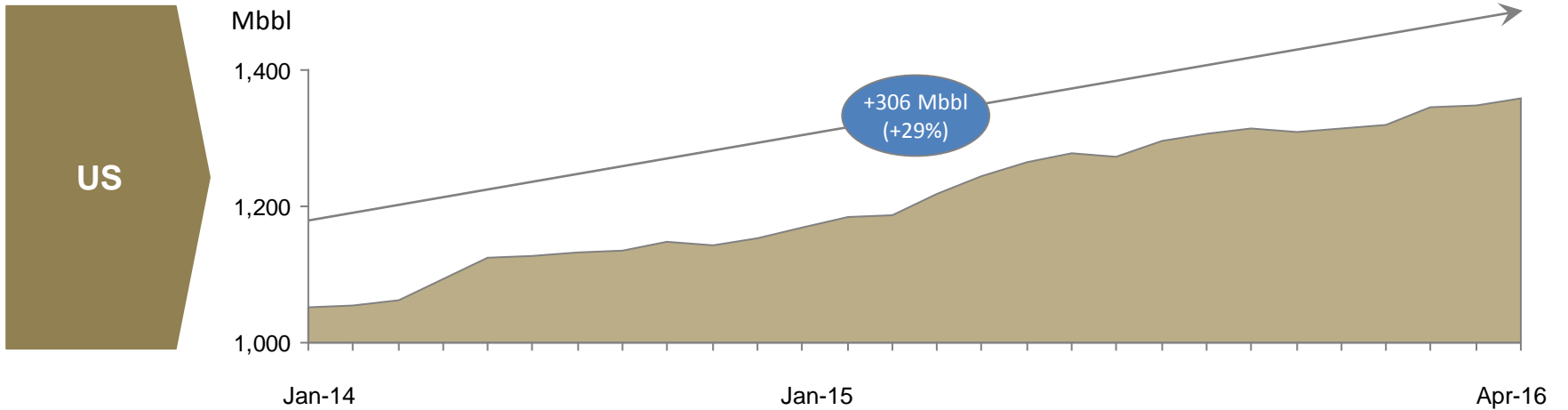
Storage as flow – biggest and first mover in rebalancing

kbd

Changing storage narrative

- **US storage capacity has grown ~90 mmb since price drop**
- **Storage is the most responsive to price changes**
- **Increased energy security through storage diversity**
- **Need to drawn down stocks overstated**

X-axis categories: Iraq, Saudi Arabia, Permian, Malaysia, UK, Russia, Utica, **China Stocks**, **US Stocks**, **Other OECD stocks**, Marcellus, Haynesville, Niobrara, Bakken, Eagle Ford, Europe, MENA+, Other Asia, Canada, Latin America, Venezuela, China, Mexico, Nigeria, End

Y-axis values: 0, 1,000, 2,000, 3,000

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Shale's role in the future

- A handoff of swing supplier/market balancer from OPEC to shale makes too simple a complex market adjustment
- The oil market is becoming multi-polar for near term balancing
- Shale does have a key role- but as the bridge between fast moving storage and long-term projects
- Keep watching OPEC

Thank you

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