



Long-Term Industry Outlook for Transportation Fuels



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What Will It Take?

For a transportation fuel to be adopted by the marketplace, it must:

- Provide equal or improved driving performance, safety, reliability, and comfort
- Be competitively priced
- Be convenient, readily available
- Be economical at large scale

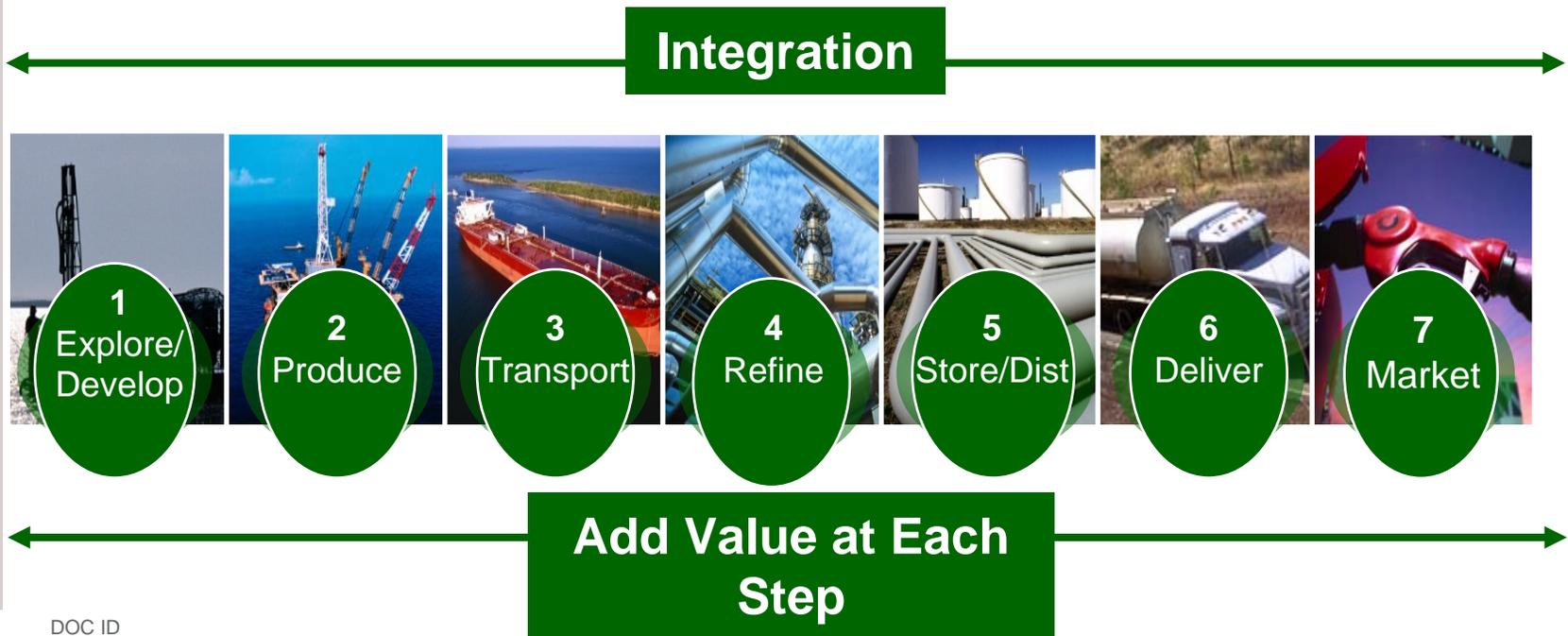


Chevron and Biofuels

- Biofuels complement traditional transportation fuels and will play an increasingly important role in meeting energy needs
- Chevron is well-positioned to make significant contributions
- Advanced biofuels hold the greatest promise for scale
- Chevron is actively working and investing to accelerate the necessary scientific, technical, and commercial breakthroughs
- Bringing biofuels to large-scale commercial production is an enormous challenge that will be achieved only through collaboration

Fundamentals of the Energy System

- Very long-lived assets
- World's largest supply chain
- Capital- and technology-intensive
- Highly integrated infrastructures
- Business is a complex blend of economics, politics, technology, and the environment



Research to Markets: Scale, Time, and Capital



10+ years



Laboratory
Bench

Pilot Plant

Field Demonstration
at Scale

Full-scale
Production
Infrastructure

\$ Millions

\$10's Millions

\$100's Millions

\$Billions



R&D



Validate
Systems
Integration



Validate scale-up and
continuous operations



Biofuels Business Unit



Catchlight Energy: Formed in 1Q 2008 as a 50/50 JV with Weyerhaeuser to research, develop, and commercialize the conversion of lignocellulose into biofuels



Advanced Biofuel Collaborations

- Georgia Tech
- UC Davis
- Texas A&M
- National Renewable Energy Laboratory
- Colorado Center for Biorefining & Biofuels
- Several others within the value chain

Portfolio R&D

- Feedstock supply and optimization
- Conversion Technology: Bioconversion; Thermochemical; Chemical catalytic
- Fuel and combustion technology

Enabling the Winners

Finding and Encouraging the Best Options

- There is no single solution
 - Issues of dependency, reliability of supply, environmental footprint and cost apply to all fuels to some degree
- All economic fuels, plus conservation, will be needed to meet demand
 - Market-based competition amongst technologies should be maximized
 - Consumers have the means to conserve and are beginning to respond
- Allow time for technology to advance
 - New products must offer tangible benefits to consumers and “field-to-fuel” benefits to the environment

