Update on Deepwater Gulf of Mexico and Deploying New Technologies

Steve Thurston
Vice President
Deepwater Exploration and Projects
Chevron North America E&P Company

PESA: 14th Annual Meeting
Tucson, Arizona
April 4th, 2014
CAUTIONARY STATEMENTS RELEVANT TO FORWARD-LOOKING INFORMATION FOR THE PURPOSE OF “SAFE HARBOR” PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

This presentation of Chevron Corporation contains forward-looking statements relating to Chevron’s operations that are based on management's current expectations, estimates and projections about the petroleum, chemicals and other energy-related industries. Words such as “anticipates,” “expects,” “intends,” “plans,” “targets,” “forecasts,” “projects,” “believes,” “seeks,” “schedules,” “estimates,” “budgets,” “outlook” and similar expressions are intended to identify such forward-looking statements. These statements are not guarantees of future performance and are subject to certain risks, uncertainties and other factors, some of which are beyond the company’s control and are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed or forecasted in such forward-looking statements. The reader should not place undue reliance on these forward-looking statements, which speak only as of the date of this presentation. Unless legally required, Chevron undertakes no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

Among the important factors that could cause actual results to differ materially from those in the forward-looking statements are: changing crude oil and natural gas prices; changing refining, marketing and chemical margins; actions of competitors or regulators; timing of exploration expenses; timing of crude oil liftings; the competitiveness of alternate-energy sources or product substitutes; technological developments; the results of operations and financial condition of equity affiliates; the inability or failure of the company’s joint-venture partners to fund their share of operations and development activities; the potential failure to achieve expected net production from existing and future crude oil and natural gas development projects; potential delays in the development, construction or start-up of planned projects; the potential disruption or interruption of the company’s net production or manufacturing facilities or delivery/transportation networks due to war, accidents, political events, civil unrest, severe weather or crude oil production quotas that might be imposed by the Organization of Petroleum Exporting Countries; the potential liability for remedial actions or assessments under existing or future environmental regulations and litigation; significant investment or product changes under existing or future environmental statutes, regulations and litigation; the potential liability resulting from other pending or future litigation; the company’s future acquisition or disposition of assets and gains and losses from asset dispositions or impairments; government-mandated sales, divestitures, recapitalizations, industry-specific taxes, changes in fiscal terms or restrictions on scope of company operations; foreign currency movements compared with the U.S. dollar; the effects of changed accounting rules under generally accepted accounting principles promulgated by rule-setting bodies; and the factors set forth under the heading “Risk Factors” on pages 27 through 29 of the company’s 2013 Annual Report on Form 10-K. In addition, such statements could be affected by general domestic and international economic and political conditions. Other unpredictable or unknown factors not discussed in this presentation could also have material adverse effects on forward-looking statements.

Certain terms, such as “unrisked resources,” “unrisked resource base,” “recoverable resources,” and “oil in place,” among others, may be used in this presentation to describe certain aspects of the company’s portfolio and oil and gas properties beyond the proved reserves. For definitions of, and further information regarding, these and other terms, see the “Glossary of Energy and Financial Terms” on pages 58 and 59 of the company’s 2013 Supplement to the Annual Report and available at Chevron.com.
Presentation Overview

- Operational Excellence
- Chevron Growth Story & Portfolios
- Deepwater Gulf of Mexico Overview
- Deepwater “Wilcox Challenge” Technology Vision
Chevron’s Safety Journey

Chevron Way

Ethical commitment to safety and protecting the environment

Code of conduct to guide daily operations

Systematic management of Operational Excellence

Drive Chevron and industry best practices across the enterprise

Operational Discipline

Workforce focus on achieving “every task, the right way, every time”

Tenets of Operation

Management System (OEMS)

Standard Processes

<1980s  1980s  1990s  2000

Policy to protect people and the environment

Chevron Safety Policy
Chevron’s Safety Culture Operational Excellence Management System (OEMS)

- Your “Safety Culture” is what you do and what others see you do
- The implementation of a Safety & Environmental Management System (SEMS) is a foundation to deliver your safety culture
- Chevron first implemented OEMS in 2000, and OEMS has created the safety culture at Chevron today
- At Chevron OEMS = SEMS
- OEMS has 15 Elements and 11 of these relate to the 13 Elements of SEMS
- The implementation of SEMS in the Gulf of Mexico is a journey that will improve the safety culture across the Gulf
Operational Excellence Guides
How we do our work

Operational Excellence (OE) is the systematic management of:

• Process Safety
• Personal Safety and Health
• Environment
• Reliability
• Efficiency

We use Tenets of Operations to achieve World-Class Performance.

We:

• Always operate within design and environmental limits.
• Always operate in a safe and controlled condition.
• Always ensure safety devices are in place and functioning.
• Always follow safe work practices and procedures.
• Always meet or exceed customer's requirements.
• Always maintain integrity of dedicated systems.
• Always comply with all applicable rules and regulations.
• Always address abnormal conditions.
• Always follow written procedures for high risk or unusual situations.
• Always involve the right people in decisions that affect procedures and equipment.
A Strong Worldwide Portfolio

- **North America**
  - 728 MBOED
- **Europe, Eurasia and Middle East**
  - 587 MBOED
- **Africa & Latin America**
  - 592 MBOED
- **Asia-Pacific**
  - 690 MBOED

### 2013 Production By Region

- **North America**: 728 MBOED
- **Europe, Eurasia and Middle East**: 587 MBOED
- **Africa & Latin America**: 592 MBOED
- **Asia-Pacific**: 690 MBOED

### 2017 Production By Region*

- North America: **728 MBOED**
- Europe, Eurasia and Middle East: 587 MBOED
- Africa & Latin America: **592 MBOED**
- Asia-Pacific: 690 MBOED

* Estimated production at $110/bbl
Significant Growth to End of Decade

> 70 Project Startups
> $250MM Chevron Share

> 25 Project Startups
> $1B Chevron Share

Developments > $1B

- 2014 ramp-up
- 2014 – 16 start-up
- 2017 – 20 start-up
- Shale & Tight Growth

© 2014 Chevron U.S.A. Inc. – All Rights Reserved
~20% Production Growth to 2017

2017 Production Target
- Price Effects
- U.S. Gas Slowdown
- Asset Sales
- Project Selection & Timing

Post-2017 Growth in progress

Projected Net Production
MMBOED @ $110

- TCO Expansion
- Shale / Tight
- Deepwater
- LNG

~20% Growth
Differentiated Portfolio Management

Earnings per Barrel Distribution
$ per BOE

Performance improvement over 10 years driven by value-focused investment

2013 results are the highest of competitor range

IOC Competitor Range
BP, RDS, TOT, XOM

Others
APA, APC, BG, COP, ENI, HES, MRO, MUR, OXY

© 2014 Chevron U.S.A. Inc. – All Rights Reserved
Key Messages for the Deepwater Gulf of Mexico

- Operational Excellence & OEMS is Essential
- Chevron’s Deepwater Portfolio is “in the Top 3”
- Chevron & Industry have recovered from Macondo
- Chevron is “the Clear Leader” in Delivering Wells, Projects and New Technology
- Deepwater is a very “High Value Portfolio”

2014 Startups

Jack St. Malo FPU

Tubular Bells Spar and Topsides

Source: Hess
Chevron in the Gulf of Mexico

- 216 MBOED Net Production in 2013
  - Shelf - 106 MBOED
  - Deepwater -110 MBOED
“World-Class” Petroleum Basin*
- 77 BBOE discovered
- > 45 BBOE produced

Challenges of Deepwater Development
- Expensive drilling ($1MM/day) and complex wells
- Deepest developments in the world
- Complex reservoirs, variable recovery factors

* Source: Bureau of Ocean Energy Management (BOEM)
Success in the Deepwater Requires Superior Technical Competencies in all Aspects of Deepwater – “Value Chain”

Explore & Lease

Plan Development

Drill, Discover & Appraise

Design

Fabricate & Install

HUC, Start Up & Ramp Up

Production Operations
Planning is the Foundation for Superior Deepwater Drilling Performance

Superior Equipment
- Five “state of the art” drill ships
- Water depths up to 10,000 feet
- Thick wall 16” casing up to 23,000 feet
- >20,000 MT hook-load
- Maximum drill depths of 40,000 feet
- Dual Gradient Drilling capability

Superior Planning
- Six to nine months planning per well
- Detailed shallow hazards analysis
- Complex well engineering
- Risk and uncertainty management planning

Superior Execution
- Standardized processes
- Well control fluency
- Rigorous management of change
- Operational discipline
- WellSAFE
Existing Deepwater Assets Performing “World Class”

**Blind Faith**
- Deep draft semi-submersible in 7000’ water depth
- First oil in 2008
- 75,000 BOE/D capacity
- Chevron’s deepest water operated development, with 10 mile tiebacks
- Low cost development
- Operations optimized using I-field
- 15,000 psi subsea trees

**Tahiti**
- Spar in 4300’ water depth
- First oil in 2009
- 137,000 BOE/D capacity
- Largest single truss spar
- Deepest production in GOM (27,000 ft)
- World’s deepest water injection and intelligent completions
- Optimized using I-field
- 15,000 psi subsea trees

**Perdido**
- Spar host with drilling rig in 9500’ water depth
- First oil in 2010
- 120,000 BOE/D capacity
- The world’s deepest water spar facility
- Subsea development to a shared host facility to serve multiple fields
- Subsea separation and boosting system
- Low pressure reservoir

**Caesar-Tonga**
- Tie back to constitution spar in 5000’ water depth
- First oil in 2012
- 60,000 BOE/D capacity
- First application of steel lazy wave risers in the Gulf of Mexico
- 10+ mile tieback
- 15,000 psi subsea trees
Gulf of Mexico Startups – 2014 & 2015

Jack St. Malo
- Planned start-up in 2014
- 177 MBOED capacity
- FPU installed
- Export risers and flowlines installed
- 4 wells ready for start-up

Big Foot
- Planned start-up in 2015
- 79 MBOED capacity
- TLP tow to location in 2014
- 2 wells pre-drilled

Tubular Bells
- Operator forecast 3Q 2014 start-up
- 44 MBOED gross production
- Spar and topsides installed at location
- Commenced riser and flowline installation

FPU – Floating Production Unit; TLP – Tension Leg Platform
Future Deepwater Developments

Stampede
- Entered FEED in 2013
- 87 MBOED capacity
- Appraisal wells complete
- FID target in 2014

Mad Dog II
- Monetizes field extension
- Evaluation ongoing to improve economics

Buckskin / Moccasin
- Hub concept opportunity
- Co-development of Buckskin and Moccasin
- Appraisal ongoing

Source: Hess
Source: BP

© 2014 Chevron U.S.A. Inc. – All Rights Reserved
New Technology is Enabling Our Deepwater Developments

- **Perdido**: Deepest Spar, Subsea Separation
- **Jack & St. Malo**: ESTMZ™, Seafloor Pumping, Long Distance Tiebacks, Ocean Bottom Node Seismic
- **Buckskin**: In Production, In Development, In Appraisal
- **Moccasin**: In Production, In Development
- **Caesar-Tonga**: First Lazy Wave Risers
- **Tahiti**: Deepest Waterflood, Deepest Intelligent Well
- **Genesis**: Tubular Bells
- **Stampede**: Mad Dog, Long Tiebacks
- **Coronado**: Blind Faith, Long Distance Tiebacks
- **Tubular Bells**: Petronius
- **N. Orleans**: In Production, In Development
- **Houston**: In Appraisal

© 2014 Chevron U.S.A. Inc. – All Rights Reserved
Deepwater “Wilcox Challenge” Technology Vision

Enabling the Deepwater from “Top to Bottom”

Subsalt Imaging
- 3D WAZ
- Coil WAZ
- Ocean bottom nodes

Drilling
- Dual gradient drilling
- Next generation drill ships
- Improved landing strings
- Next generation BOPE’s

Completions
- Single-trip multi-zone frac pack
- In-Well artificial lift
- Reservoir surveillance

Subsea Systems
- Seafloor boosting
- Seafloor separation
- Rigless well intervention
- 20 Ksi

Ultra-Deepwater Developments
- Out to 10,000’ WD

Long Distance Tiebacks
- Flow assurance
- Long distance power and communications

Host Facilities with Small Field Tie-ins
- Spare risers
- Spare deck space

Facilities
- Hull/mooring design standardization
- Compact modular processing systems

Operations
- Intelligent wells and i-field
Fact: What is “normal today” was “impossible 10 years ago”
Belief: What is “impossible today” will be “normal 10 years from now”

Vision and commitment to develop technology now are essential to achieve success in the future

- Set expectations that new technology will be delivered
- Strive for new breakthroughs
- Fund technology development before you need it
- Foster long term partnerships and collaboration