The Challenge of Energy Policy

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Who is Devon?

Proved reserves: \( \approx 2.1 \text{ Billion BOE} \)

Current production:
\( \approx 684,000 \text{ BOED} \)
\( \approx 2.45 \text{ BCFD (60\% gas)} \)
\( \approx 275 \text{ MBOD (40\% liquids)} \)

Production profile: 87\% North American

Enterprise value: \( \approx 24 \text{ Billion} \)

Note: Proved reserves as of 12/31/03. Production based on second quarter 2004 results. BOE represents barrels of oil equivalent at a ratio of 6:1. BOED represents barrels of oil equivalent per day.
Industry Perspectives

- Where are we?
  - Precariously tight supply/demand fundamentals

- How did we get here?
  - What happened in the natural gas sector that contributed to the situation?

- Why we have to avoid conflicting policy objectives

- How industry conservation efforts can help
• Supply of oil is plateauing:
  – 1980’s excess crude > 10 MMBOD
  – 1999 excess crude ≈ 5 MMBOD
  – 2004 excess crude ≈ 1.5 MMBOD

• Non-OPEC, Non-FSU supply flat for five years

• Most production increases came from FSU during that time
• 1999 – 2004 global demand increase ≈ 7 MMBOD

• Largest increase in demand occurred in last 24 months

• Biggest contributors – China, India, South Korea and Vietnam

• Staggering growth in China – over 1 MMBOD between November 2003 and July 2004
• China automobile ownership up tenfold in last decade
• India just starting to move
• Economic growth in developing nations will continue to fuel demand
• 5-year projected increase in world oil demand 1.4 to 2.0 MMBOD per year
Longer-Term Crude Oil Prices

WTI Oil Strip (US$/Bbl)

![Graph showing Longer-Term Crude Oil Prices from 1987 to 2004. The graph displays fluctuations in oil prices with a trend line indicating the overall price trajectory during this period.]
Natural Gas Supply

- US natural gas production decreasing
- Canadian gas production leveling off
- Little supply response from 2001 – 2004 drilling boom
- Unconventional supplies (deep offshore gas, Arctic gas, LNG) take years to develop
Why Has Supply Leveled Off?

The causes:

• Rapidly escalating production declines across North America
• The “myth” of growth in Canada
• Restriction of access to resource
• Fundamental restructuring of industry
• Public market focus on near-term results – the “business of investing”
Why Has Supply Leveled Off?

The result:

- Multi-year focus on exploitation rather than exploration
- Diminishing new pool discoveries
- Little incentive to invest in longer-term projects
Total U.S. Production Decline Rates

Source: Independent Investment Bank
The “Myth” of Growth in Canada

- 15 year focus on exploitation
- Sharply increasing production gave appearance of expanding supply
- Significant rate acceleration without corresponding reserves additions
- Modest exploration efforts
1986 – 2002 Annual Production

Production up 134% since 1986
1986 – 2002 Established Reserves

- Reserves down 22% since 1986

- TCF (Trillion Cubic Feet) range from 61 to 73 from 1986 to 2002.
1986 – 2002 Reserve Life Index – Western Canadian Conventional vs. U.S.

RLI (years)


RLI is defined as year end reserves divided by annual production.
Note: Canadian reserves are established while U.S. reserves are proven only.
Excludes East Coast, Arctic and Mackenzie Delta gas reserves.

Source: CAPP & EIA
Restrictions on Access to Resource

Source: National Petroleum Council, Sep '03
Restructuring of Industry

• Over 400 publicly-traded companies 10 years ago
• Slightly over 100 today
• Result is fewer companies with much greater size disparity:
  – Larger companies have many investment choices
  – Capital has to compete globally
  – Smaller companies tend to focus more on exploitation
The “Business of Investing”

Assets of U.S. Hybrid & Equity Funds

Number of U.S. Hybrid & Equity Funds

Source: Investment Company Institute
The “Business of Investing”

- Enormous fee pool
  - How do fund managers get their piece?
- Many fund managers have very short-term investment horizons
- Encourages short-term focus in E&P sector
- Little incentive for publicly-traded companies to invest for the long-term
Long-Term NYMEX Natural Gas Prices

The graph illustrates the long-term NYMEX Natural Gas Prices from January 1991 to January 2004. The prices are shown on the y-axis, ranging from 0 to 12.00, with major tick marks at intervals of 2.00. The x-axis represents the years from 1991 to 2004.

Two lines are plotted on the graph:
- Red line: Nymex Natural Gas
- Green line: WTI Energy Equivalent (6:1)

The graph shows fluctuations in prices over time, with notable peaks and troughs. The Nymex Natural Gas prices appear to be consistently higher than the WTI Energy Equivalent prices throughout the period.
Natural Gas Prices

- Primarily influenced by North American production declines, increased oil prices (less substitution) and slight demand growth
- Future prices heavily dependent upon supply availability and weather
- Prices will remain volatile in both short and longer-term due to tight supply/demand balance
- With declining supply, we will need all the natural gas that we can get!
LNG Helps in Longer-Term

- Currently 3 BCFD of North American receipt capacity
- Growth expectation – 9 to 10 BCFD by 2010
- High capital costs (export facilities, transportation, import capacity)
- Competition for cheap natural gas from China, India and Western Europe
- NIMBY
Northern Gas

Alaska 237 TCF

Northern Pipeline

Mackenzie Valley Pipeline

Alaska Highway Route

Source: CAPP

For Illustrative Purposes Only
Renewable Energy Sources

- Hold some promise
- Are currently only partial substitutes for fossil fuels
- Are generally complex and longer-term in nature
Where Do We Go From Here?

- No “silver bullet” for short-term solution
- Most meaningful supply additions have multi-year horizon
- Need overarching energy policy that avoids competing policy objectives
Competing Policies = Confusion = Delays

- Use more natural gas
- Restrict access to lands with more natural gas
- Increase production from the vast oil sands resource
- Environmental restrictions on refinery reconfiguration
- Bring on more supply of oil and natural gas faster
- Require higher standards for regulatory approvals and longer regulatory processes
How Do Conservation Efforts Help?

- Voluntary programs to reduce methane emissions provide economic and environmental benefits

- Natural Gas STAR is working!
  - Methane emissions down 10% since 1990
  - Success of program motivates existing participants and attracts new players
Why Does Natural Gas STAR Work?

• Broad industry participation:
  – 111 oil and gas company participants
  – Represent 60% of all natural gas production, processing, transmission and distribution

• Encourages cost-efficient best management practices to reduce losses of natural gas

• Promotes effective technology transfer
Why Does Natural Gas STAR Work?

- Makes good business sense – economics work!
- Not command and control – participants determine reduction opportunities
- Raises the profile of conservation efforts
- Encourages new ideas and innovation
Innovation – The Key to Success

We usually find oil in new places with old ideas. Sometimes, we find oil in an old place with a new idea, but we seldom find much oil in an old place with an oil idea.

Several times in the past we have thought that we were running out of oil, when actually we were running out of ideas.

Parke A. Dickey
September 15, 1958