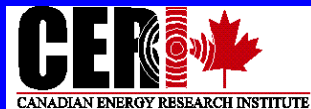


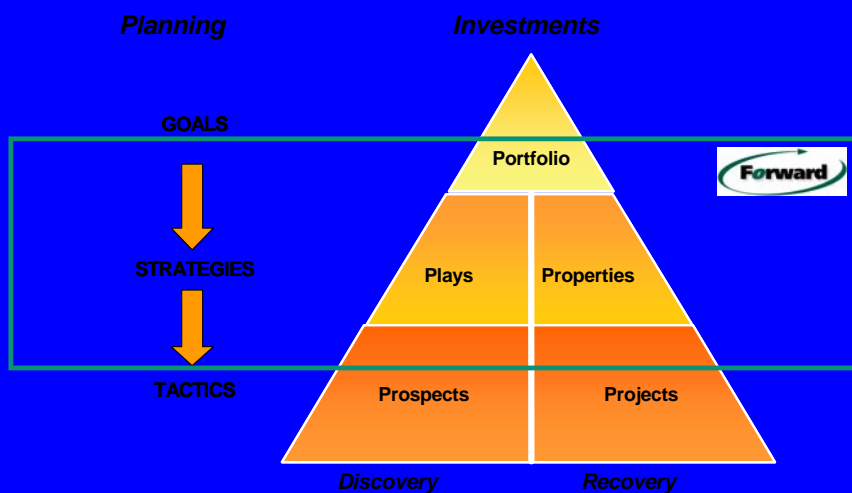
Gas Drilling and Supply Trends in Canada and the US

Dave Flint and Bob Dixon

March 5, 2007



Forward Energy Group Inc

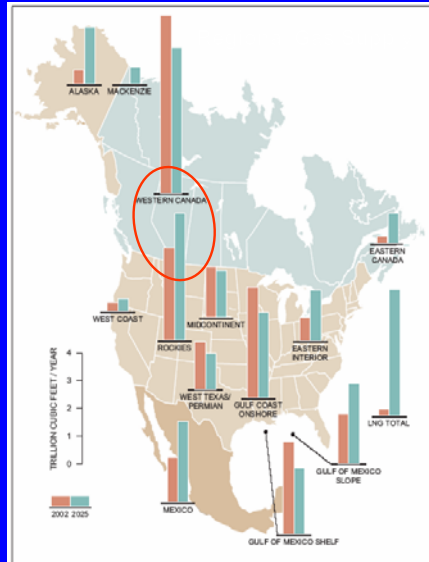


Better information for strategic decisions

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Gas Supply Regions in North America



Balancing Natural Gas Policy, NPC (2003)

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WCSB

- Produces 6 Tcf per year
- Supplies over 23% of North American consumption
- Largest natural gas supply region in North America

LOWER 48

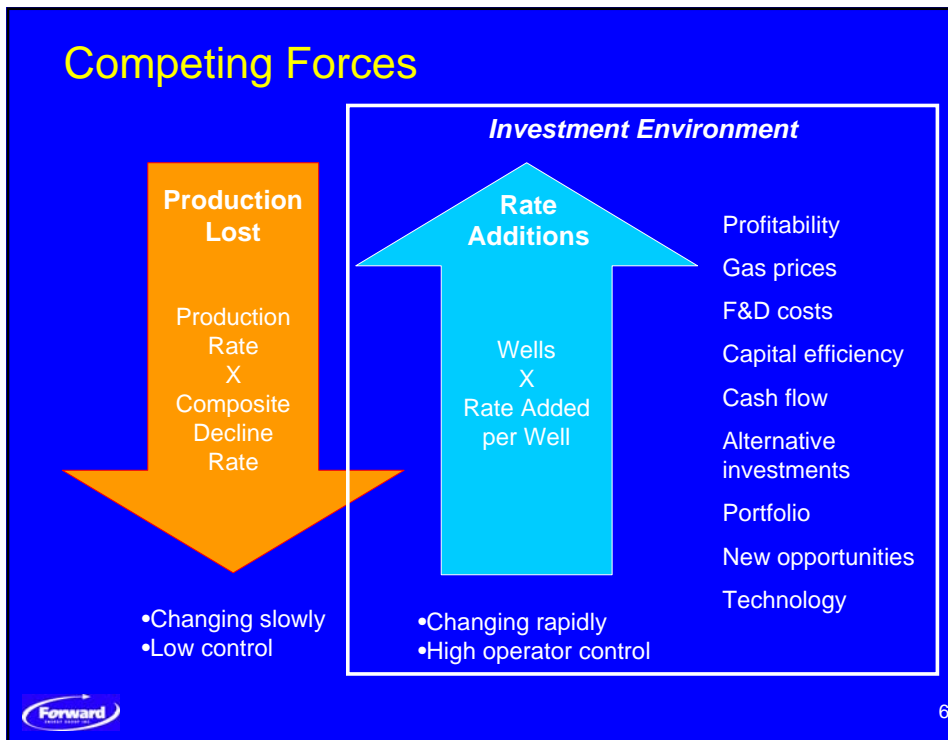
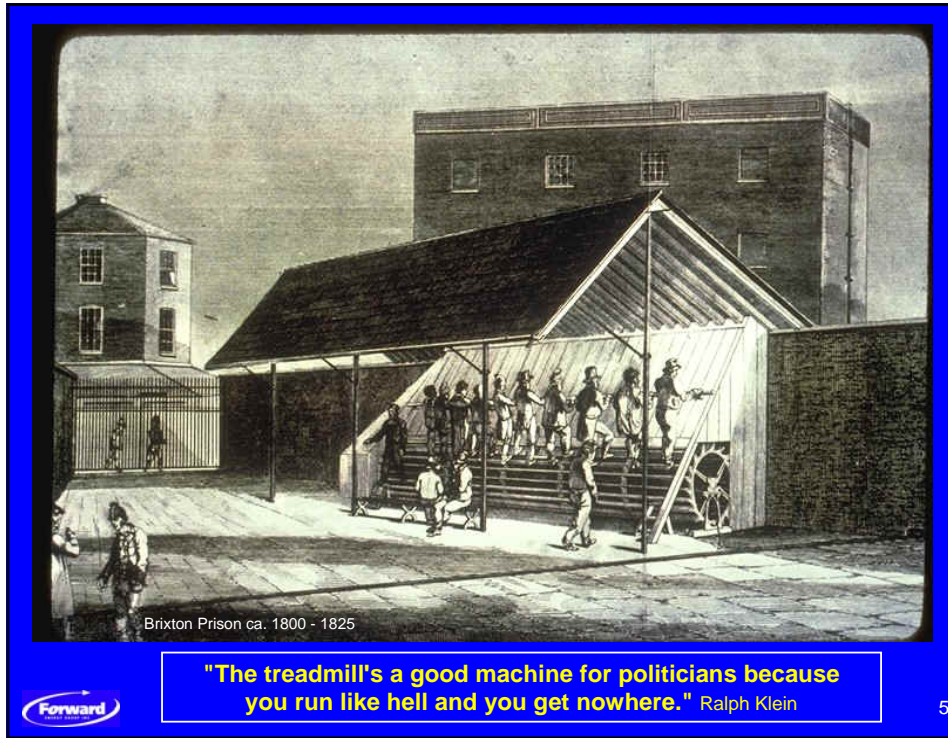
- Produces 19 Tcf per year
- Supplies over 72% of North America's demand

Drilling and Gas Supply Trends

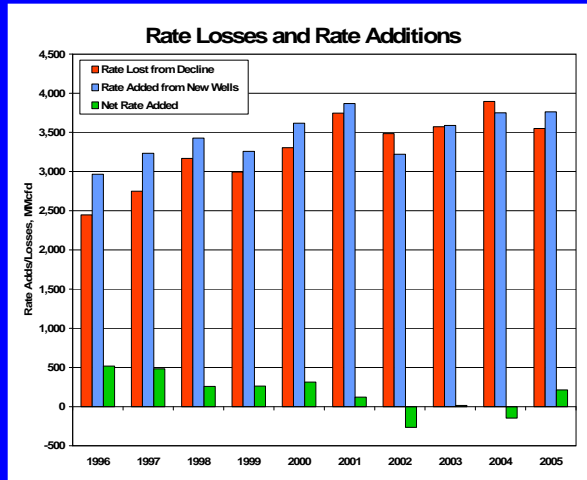
- Western Canada gas supply treadmill
- Challenge to sustain supply profitably
- Increasing effort for less rate and reserves
- Increasing costs have slowed drilling
- How has industry been meeting challenge?
- US drilling and production trends



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WCSB Rate Losses and Rate Additions



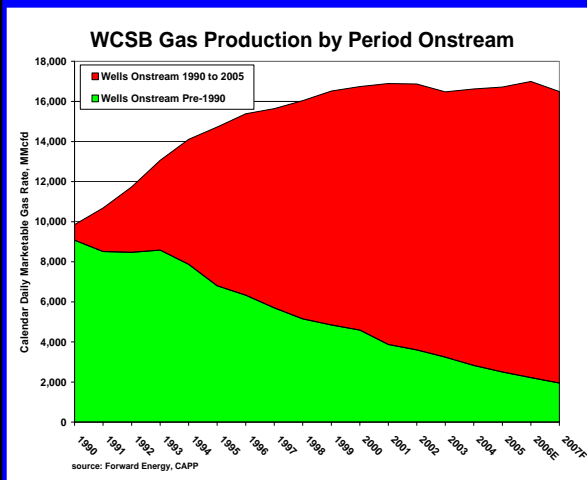
- Rate loss from decline increased from 2.5 Bcfd to 3.9 Bcfd in 2004
- Annual rate loss has averaged 3.7 Bcfd since 2001
- Net rate added has been decreasing
- 2002 correction may be a useful model for 2007



Rate losses and rate additions close to balance

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Supply by Period Onstream



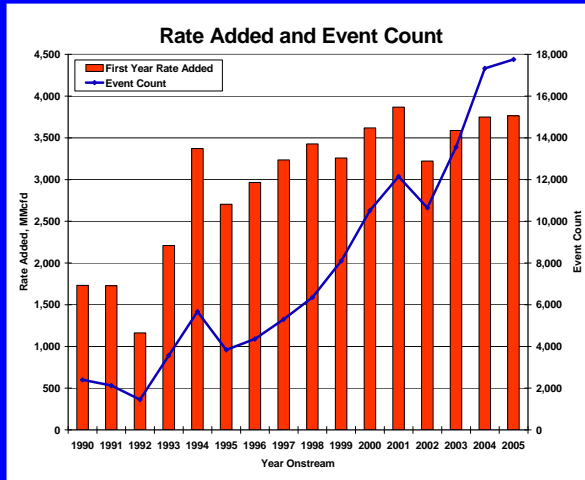
- Total production grew by over 70% from 1990 to 2001
- Total gas production recovering slowly since 2001
- Wells onstream since 1989 produce 85% of gas
- Probable decline in 2007 due to reduced gas drilling



2006 production estimated at 17.0 Bcfd

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Rate Additions by Year Onstream



- Supply additions were 1.7 Bcfd in 1990, rising to 3.9 Bcfd in 2001,
- Rate additions averaged 3.6 Bcfd from 2001 to 2005
- Events are the new connections that provided the new rate additions
- Connections lag drilling

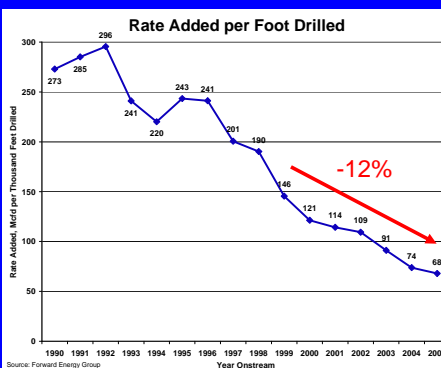
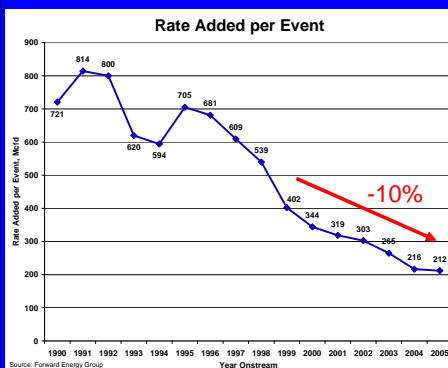
- Rate additions static but the number of connections has increased 69% since 2000 – this is the treadmill!



Connections increasing more rapidly than rate additions

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Rate Added per Connection



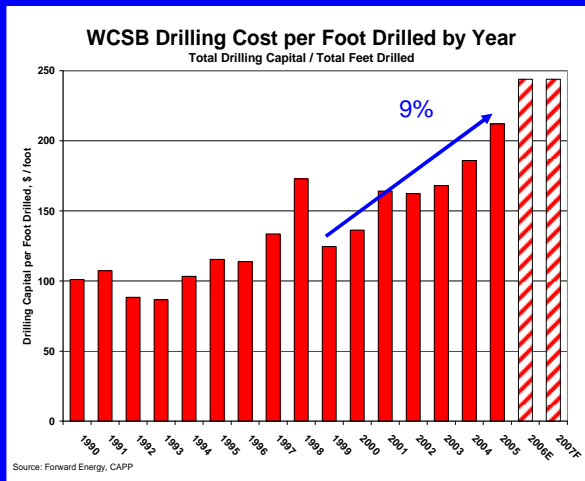
- Production replacement per foot drilled has decreased by 12% per year
- In 2005, the same event connected and foot drilled resulted in only 30% of the 1995 rate additions per unit
- Supply from previously-unprofitable, lower deliverability opportunities increased in response to higher prices and improved technology



Decreasing results for same activity is the consistent driver of F&D cost increase

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Drilling Cost per Foot



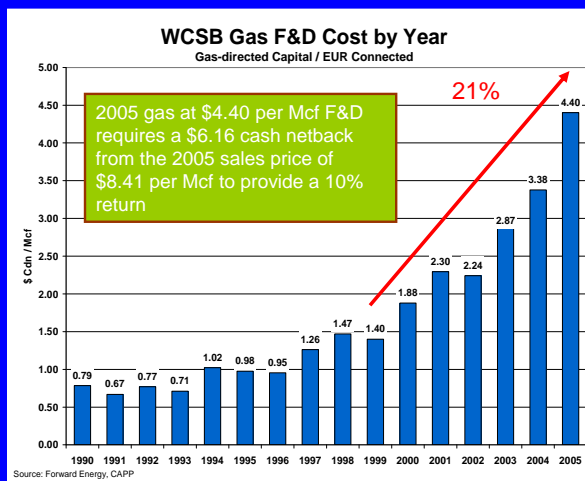
- Total drilling capital / Total feet drilled
- Cost per unit has been increasing at 9% per year since 1999
- Rapid cost increases in 2005 (14%) and continuing at least 15% into 2006



Cost inflation is accelerating, driving F&D costs

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Gas F&D cost



- Gas-directed capital / extrapolated recovery in newly-connected zones
- Increasing at 21% per year since 1999
- Most of F&D cost increase is in lower EUR per well

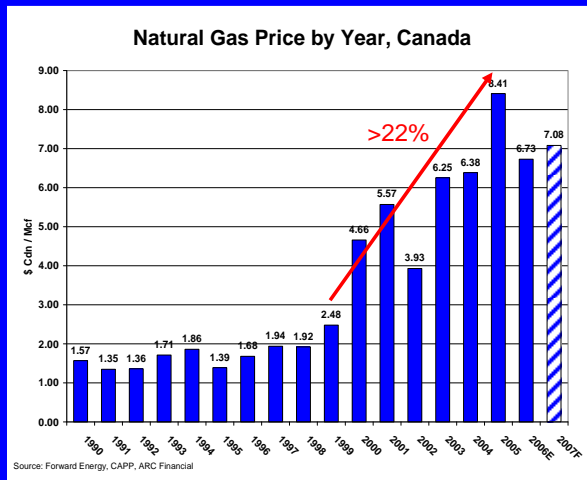
- To sustain investment return, increasing F&D cost must be matched by increasing netback and therefore, increasing price



Increasing costs threaten profitability and investment

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Gas Price



- Increased at > 22% per year between 1999 and 2005
- Commodity price increases supported projects despite increased F&D cost
- Estimated 20% decrease in price in 2006

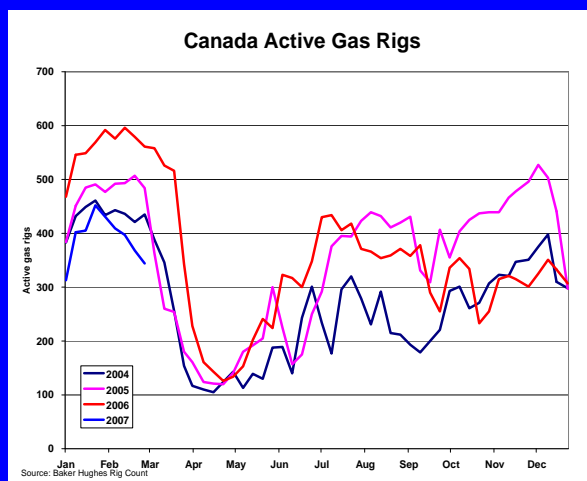
- Rate additions at increasing F&D costs sustained by increasing prices
- Activity and rate adds will decrease when price decreases



What happens when gas prices decrease?

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Drilling Response



- Active gas rigs dropped below 2005 levels in August 2006
- Dropped below 2004 levels in October
- Year to date 2007 active gas rigs are 70% of the comparable 2006 period

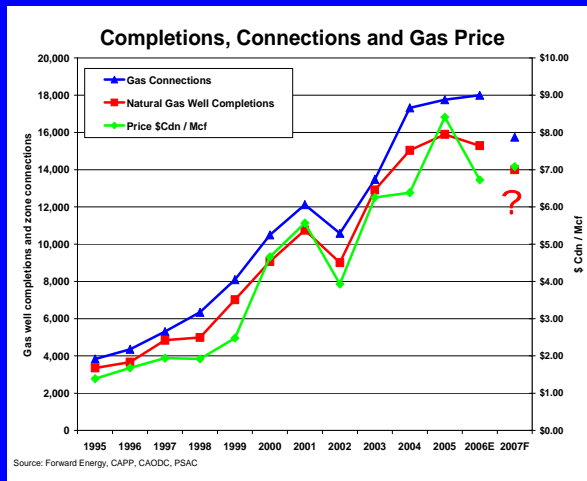
- Operators have announced reduced shallow gas and CBM programs
- Lower utilization rate of shallow rigs



Rapid response after a record first half of 2006

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Drilling Response



- Connections and completions flat 2004 to 2006
- CAODC and PSAC forecasts 2007 gas completions down 20% to 25%
- We assume a 10% decrease in activity

- Decrease in rate added depends on rate added per new event



Lower drilling = lower production

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Profitable Production Replacement

- F&D costs have been increasing rapidly
- Decreasing rate additions and reserves per well has been the major driver of increased F&D costs
- Cost inflation has been a recent contributor
- Increased gas commodity prices supported investment at the increased F&D costs until 2006
- Current slowdown in drilling will result in lower supply, higher gas prices and, in time, lower input costs
- Operators must select investments where profitability is sustainable through volatile commodity price cycles and inflationary cost pressures



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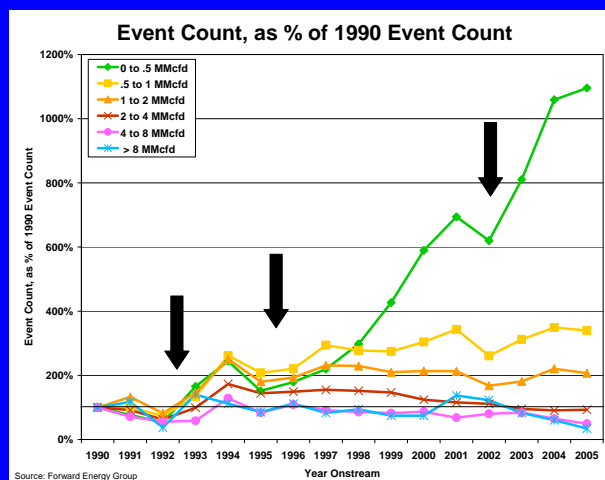
Meeting the Challenge: Growing sources of supply

- Low deliverability zones
- New pools
- New areas
- Unconventional gas
- Technology



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Activity by Deliverability Class



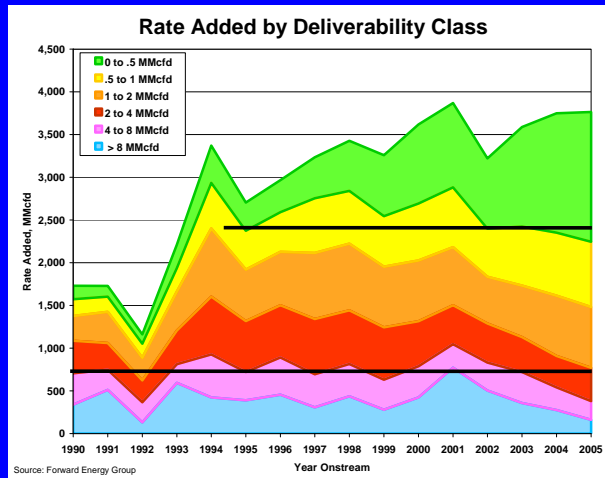
- Extraordinary growth in the number of low rate (<0.5 MMcfd) connections since 1995
- The number of connections in the higher rate classes has remained relatively constant until 2002
- Connection activity of low deliverability zones decreases when gas price decreases



Growth in activity is all in low deliverability wells

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Rate Additions by Deliverability Class



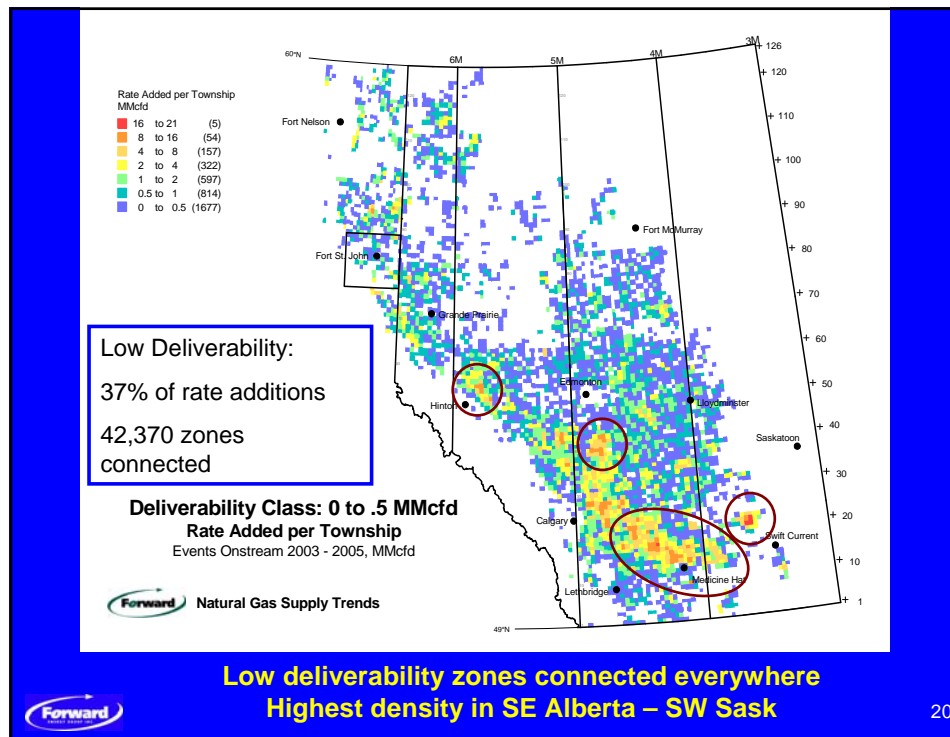
Source: Forward Energy Group

- Ninefold increase in rate adds from the lowest deliverability class
- Rate additions from low deliverability events (<2.0 MMcf/d) increased from 37% to almost 80% of annual rate additions in 2005
- High deliverability zones (>4 MMcf/d) maintained relatively constant additions until 2002

Growth in overall rate additions has come increasingly from low deliverability wells



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Low Deliverability:
37% of rate additions
42,370 zones connected

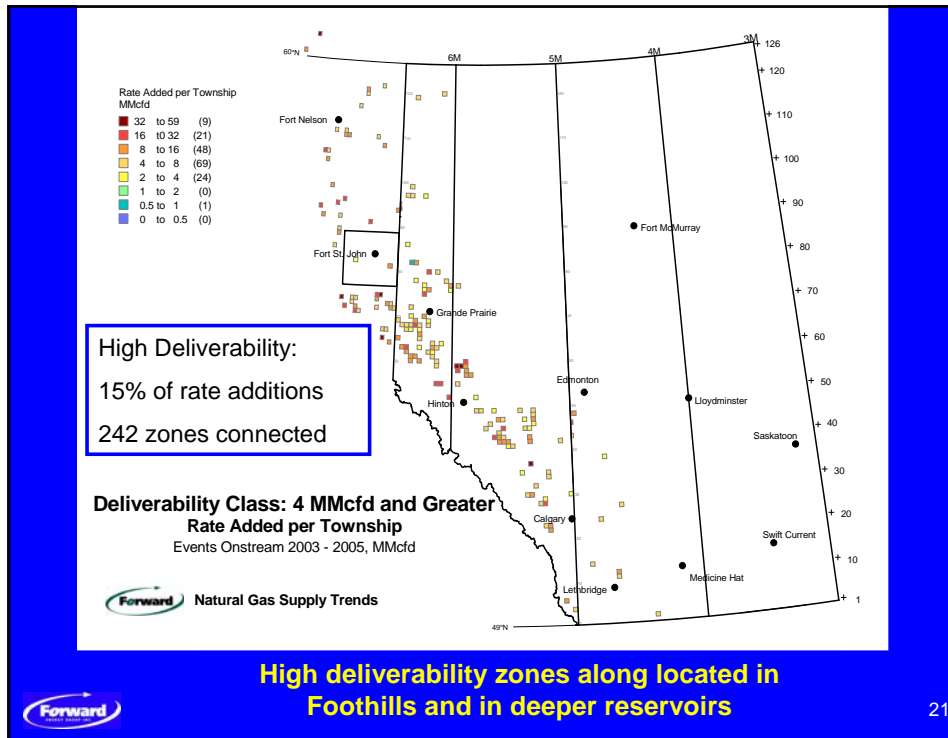
Deliverability Class: 0 to .5 MMcf/d
Rate Added per Township
Events Onstream 2003 - 2005, MMcf/d

Forward Natural Gas Supply Trends

**Low deliverability zones connected everywhere
Highest density in SE Alberta – SW Sask**

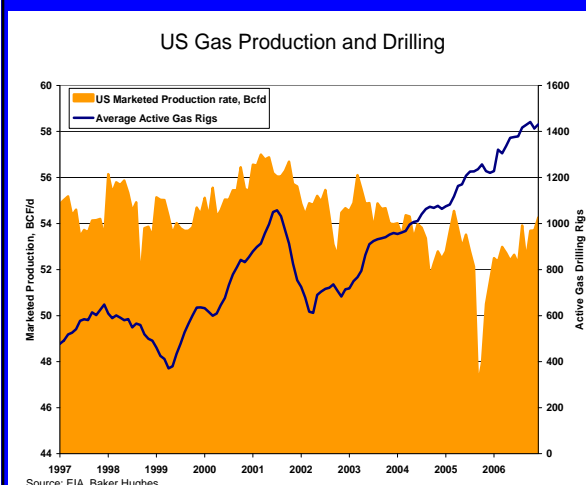


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US Production and Drilling Trends

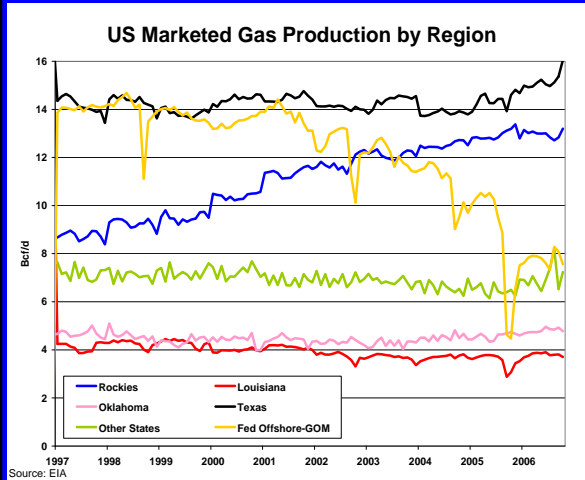


- Total production declined over 4 Bcfd from 2001 to 2005
- Total gas production recovering in 2006
- Active gas rigs count has more than doubled since May 2002

Where is the supply response to increased drilling?
Where is the drilling response to decreased price?

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US Production by Region



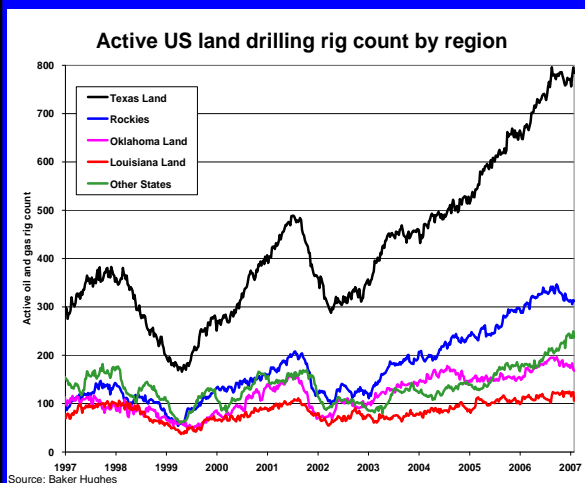
- Production from the Gulf of Mexico declined 6 Bcf/d in 6 years
- Texas sustaining with 2 Bcf/d growth since 2004
- Rockies growth 2 Bcf/d in last 6 years but seems flat recently
- Slow decline in other states and Louisiana



Offshore declining, onshore growing

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US Land Drilling by Region



- Both gas and oil directed rigs in these counts
- Texas dominates growth in active rigs but stable for last 6 months
- Rockies and Oklahoma active rigs have each declined 10% since September
- Louisiana flat, other states growing



Early signals of drilling response to prices and costs

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Summary

- WCSB is important supply source for North America
- Challenge to sustain production profitably
- More feet drilled for less gas production and reserves
- Supply costs and F&D costs are increasing
- Sustaining WCSB production will require higher prices and activity to exploit more low deliverability gas
- Uncompetitive costs and economics for WCSB gas projects will reduce reinvestment
- Watch for US drilling and supply trends by region



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Gas Drilling and Supply Trends in Canada and the US

Dave Flint and Bob Dixon

dave.flint@forwardenergy.ca
March 7, 2005

