BALANCING NATURAL GAS POLICY

Fueling the Demands of a Growing Economy

Committee on Natural Gas Presentation to the National Petroleum Council

September 25, 2003

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OVERVIEW

Jerry J. Langdon
Reliant Resources, Inc.

The Study Could Not Be More Timely

"Examine the potential implications of new supplies, new technologies, new perceptions of risk, and other evolving market conditions that may affect the potential for natural gas demand, supplies, and delivery through 2025 ... provide insights on energy market dynamics, including price volatility and future fuel choice, and an outlook on the longer-term sustainability of natural gas supplies … advice on actions that can be taken by industry and Government to increase the productivity and efficiency of North American natural gas markets and to ensure adequate and reliable supplies of energy for consumers."

Spencer Abraham
Secretary of Energy
March 2002

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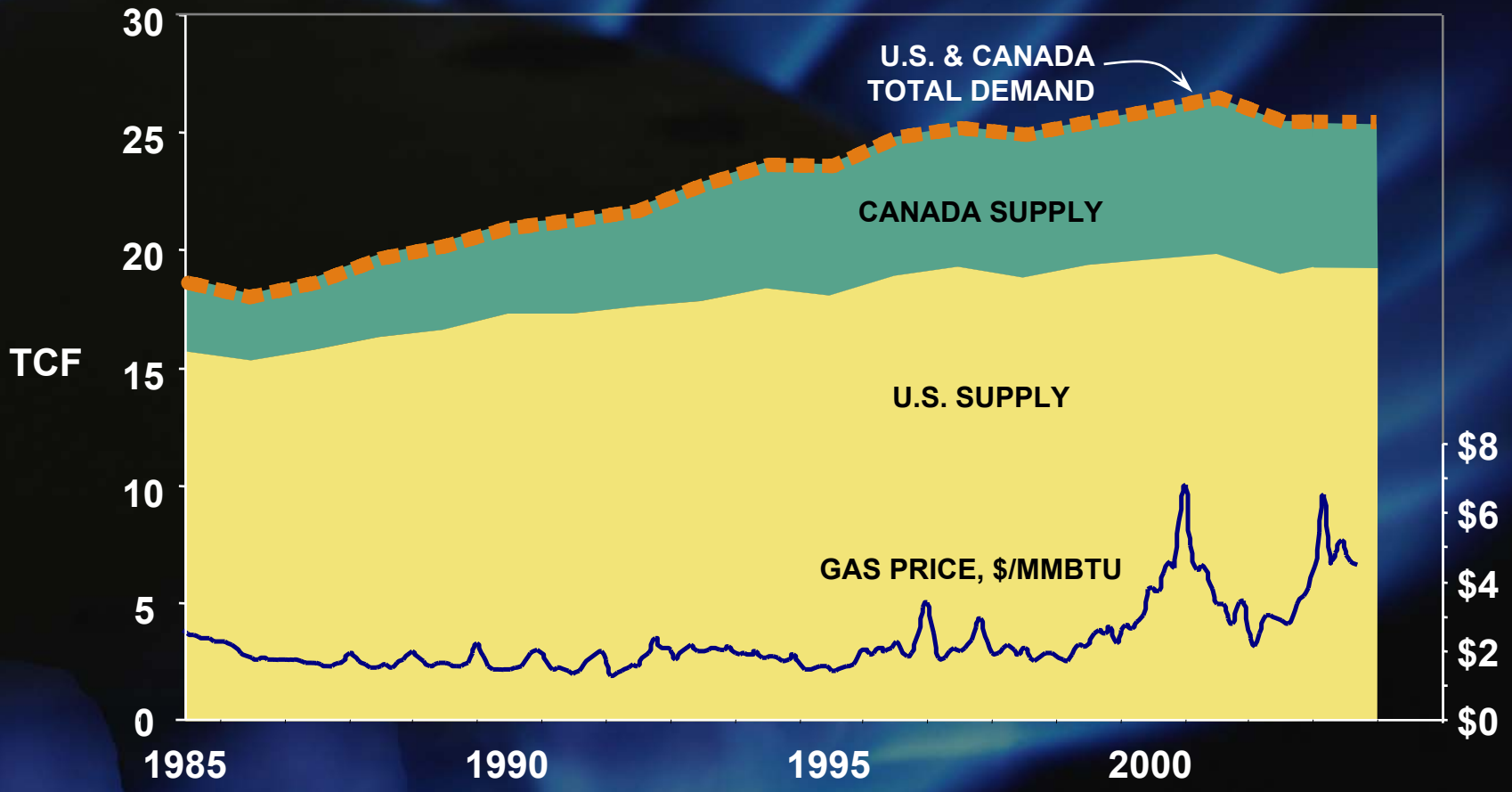
Higher Prices Reflect a Fundamental Shift in Supply & Demand



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We Must Improve from the Status Quo

The current policy direction — unaltered — will likely lead to difficult conditions in the natural gas market, but industries, government, and consumers will react.

Therefore, this study assumes action beyond the status quo: Arctic pipelines built, substantial LNG imports, success in Lower-48 permitting, increased energy efficiency, fully-compliant coal and renewable generation.

The NPC Considered Two Paths Beyond the Status Quo

Reactive Path	Public policies remain in conflict, encouraging consumption while inhibiting supply … resulting in higher prices and volatility
Balanced Future	Public policies aligned: alternate fuels and new natural gas supply sources compete to ensure lowest consumer cost

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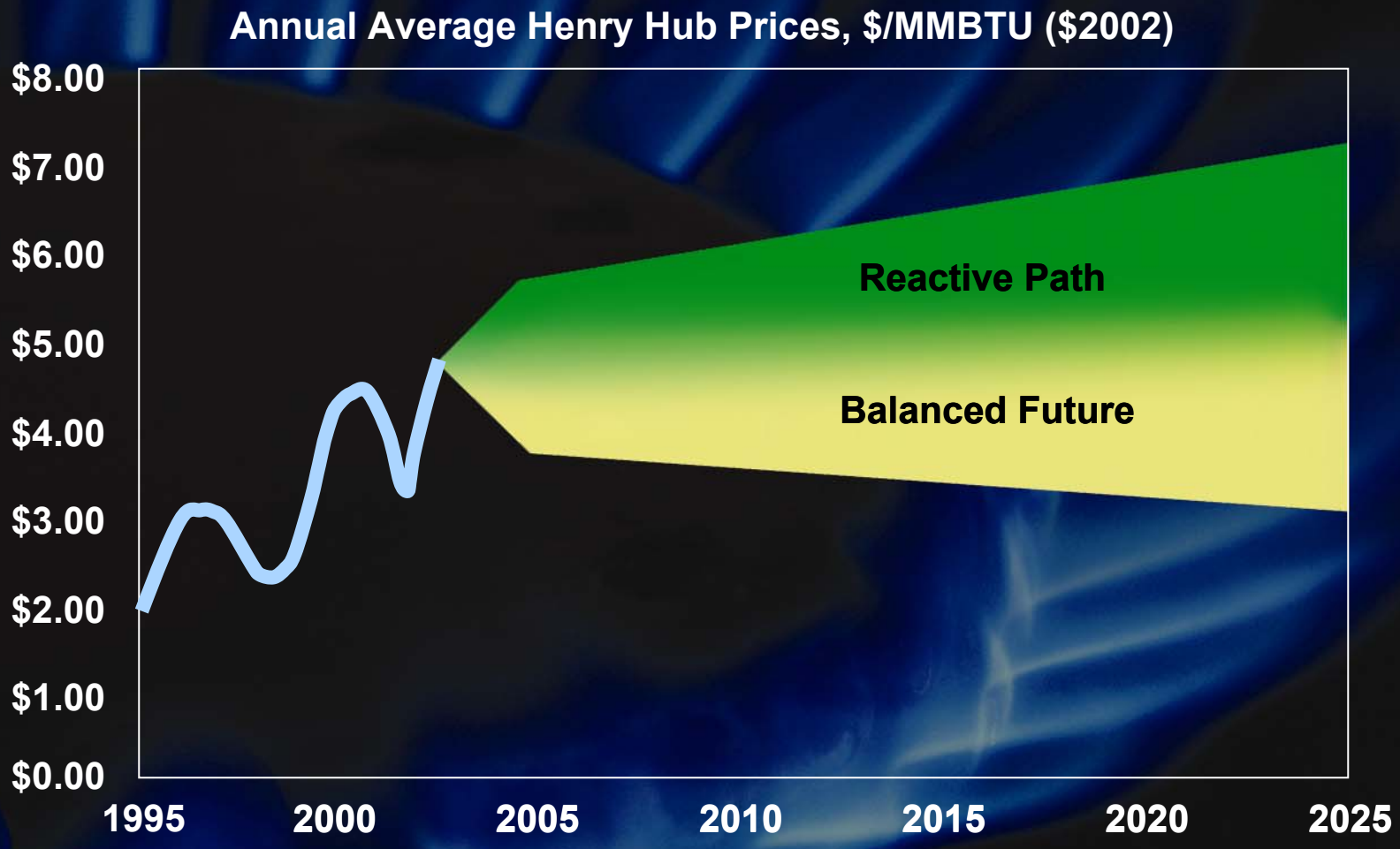
Potential Price Range



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What Do We Need to Do?

Improve demand flexibility & efficiency

Increase supply diversity

Sustain and enhance infrastructure

Promote efficient markets

Higher economic growth

Higher employment

Stronger industrial activity

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NATURAL GAS DEMAND

David J. Manning
KeySpan

The Demand Task Group Approach Involved All Consumer Sectors

Develop a sector-by-sector demand picture

Analyze existing and future electric power

Assess industrial process energy and raw materials

Evaluate the role of energy efficiency in all sectors

Integrate U.S. & Canadian demand;
Mexico modeled as net export/import

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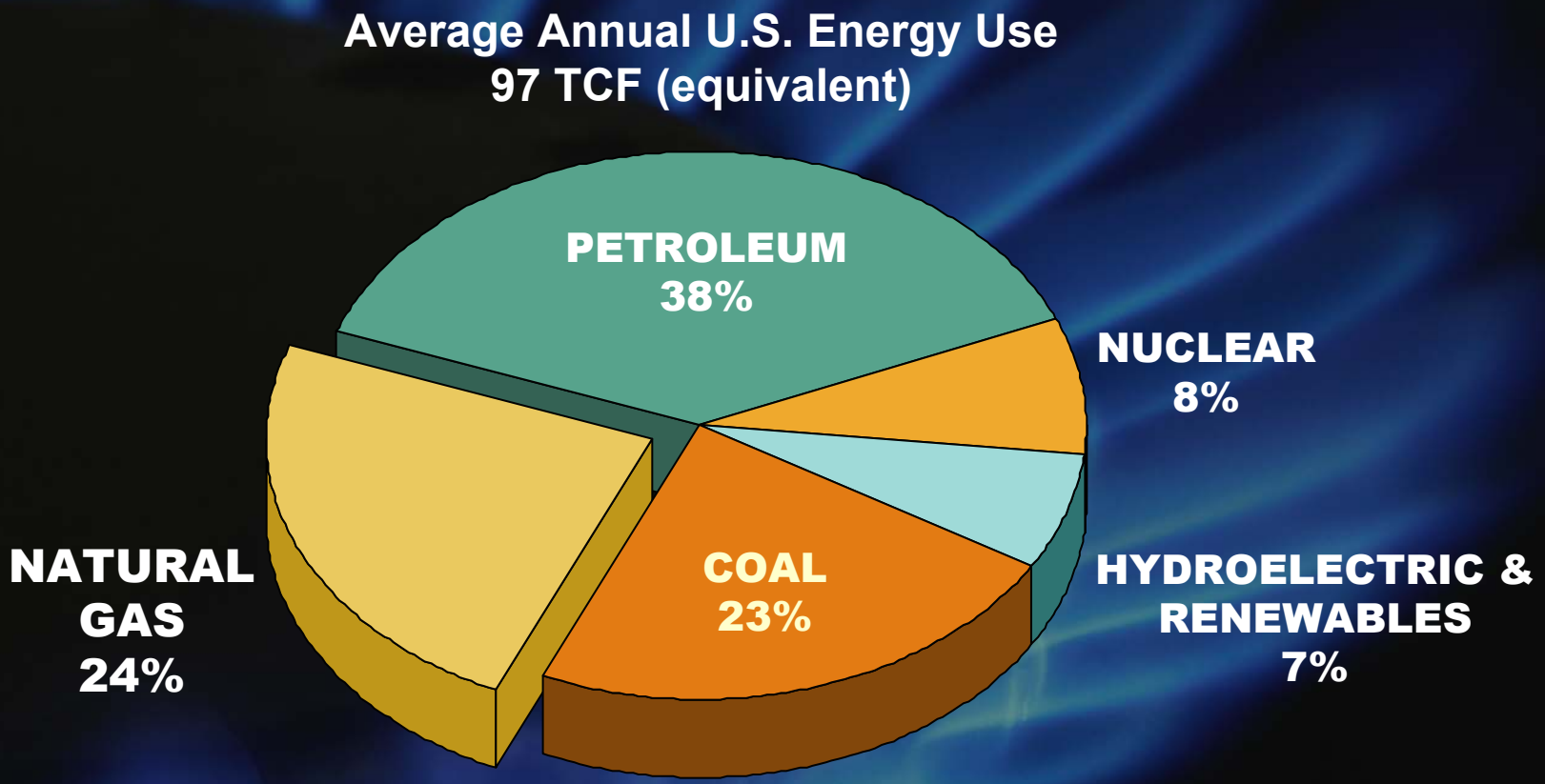
Natural Gas is Important to Our Economy



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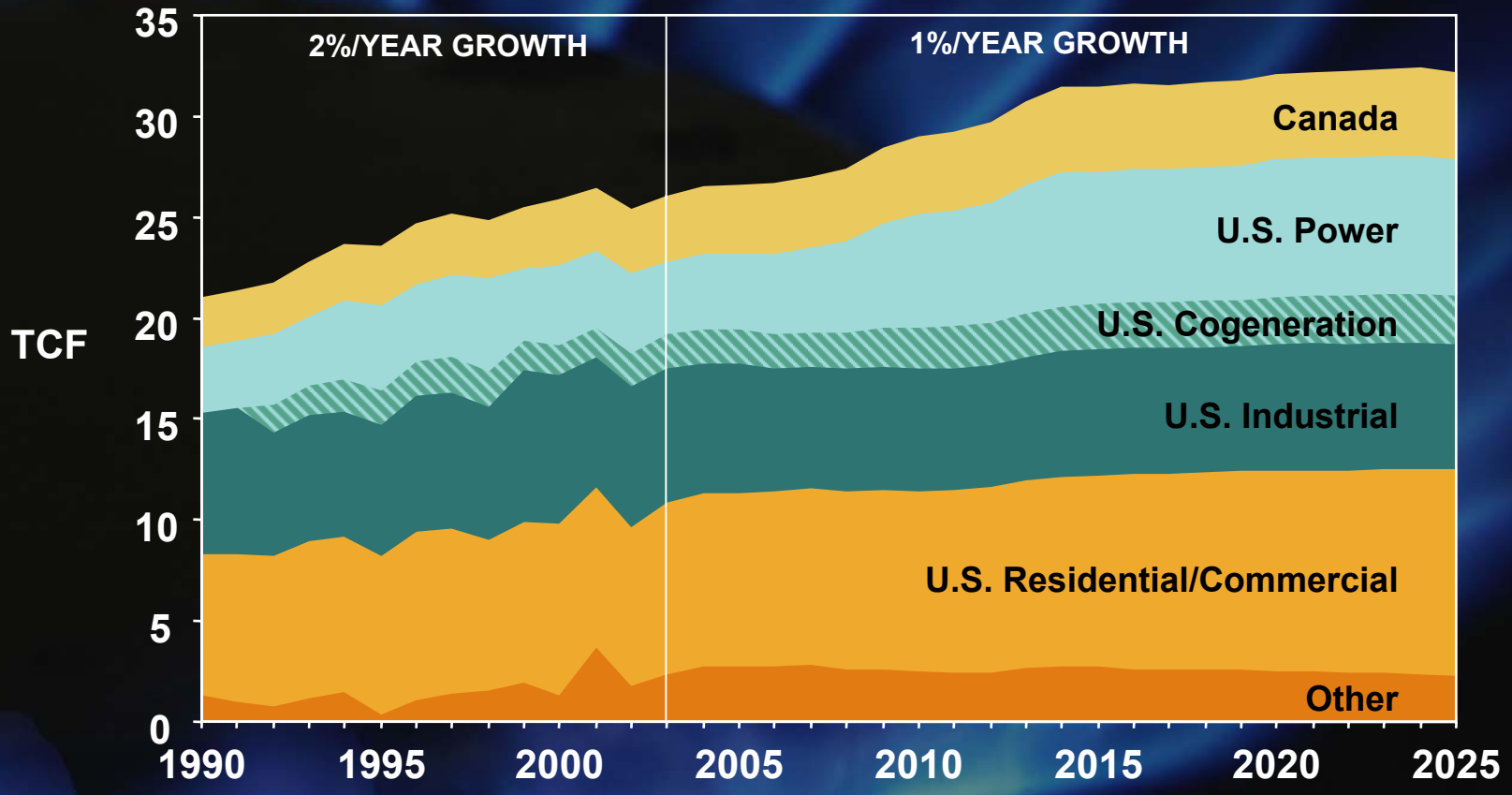
Demand is Diverse and Power Generation Will Drive Growth



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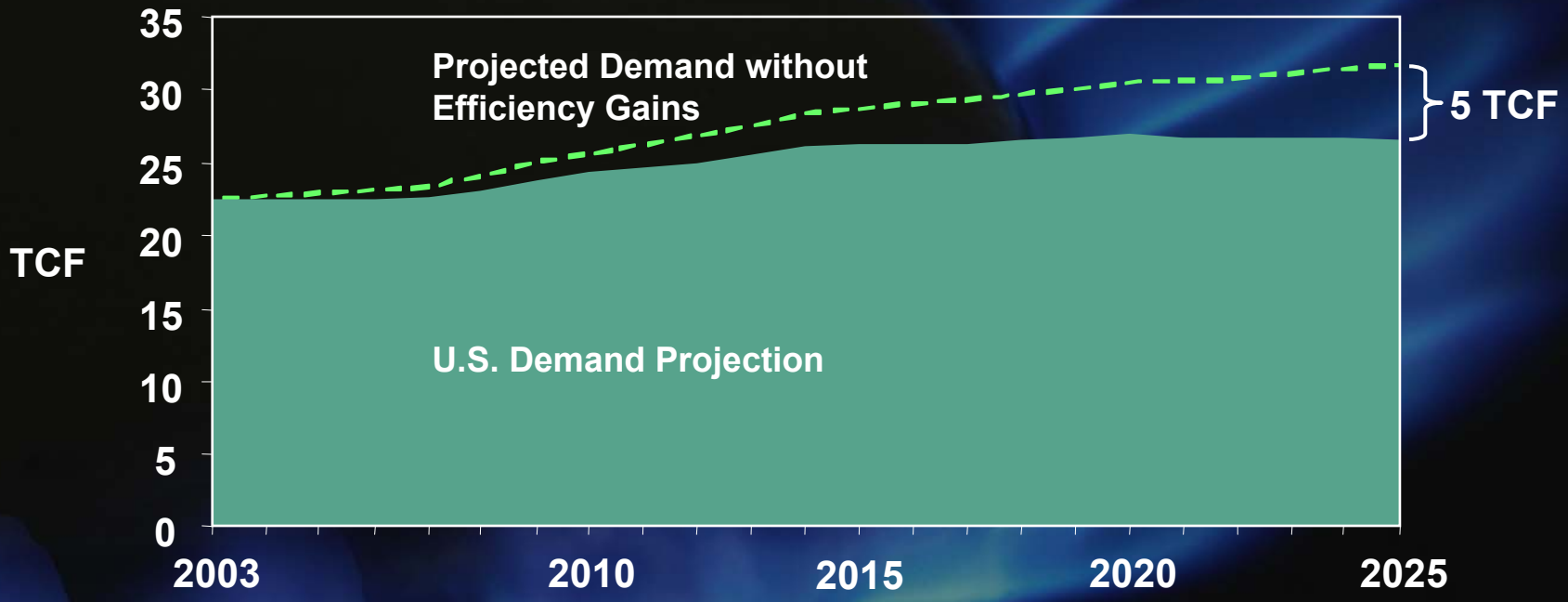
Finding: Greater energy efficiency and conservation are vital near-term and long-term mechanisms for moderating price levels and reducing volatility.

Continued Energy Efficiency is Important

Recommendation: Encourage increased efficiency and conservation through market-oriented initiatives and consumer education.



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Finding: Power generators and industrial consumers are more dependent on gas-fired equipment and less able to respond to higher gas prices by utilizing alternate sources of energy.

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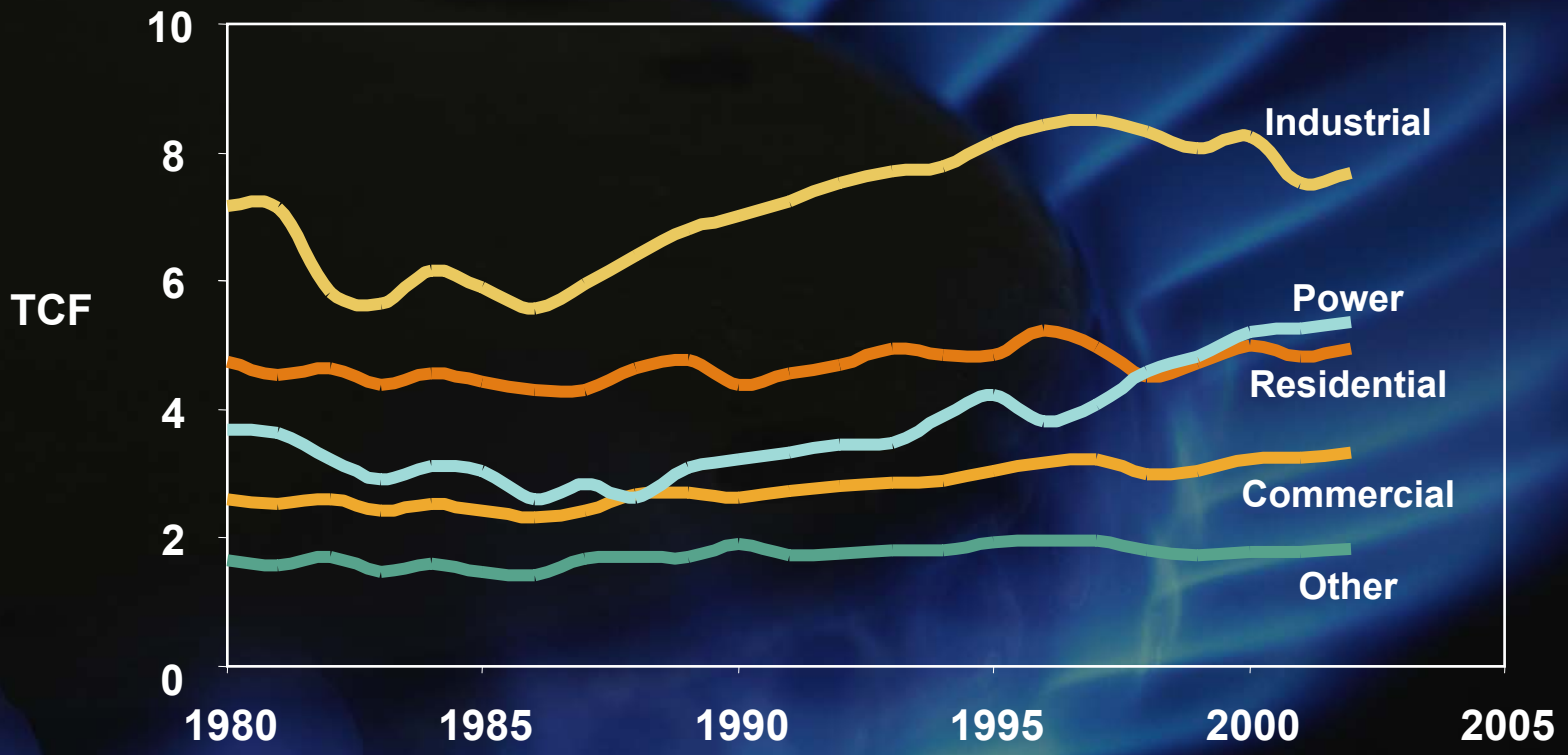
Key Demand Sectors are Consuming More Gas



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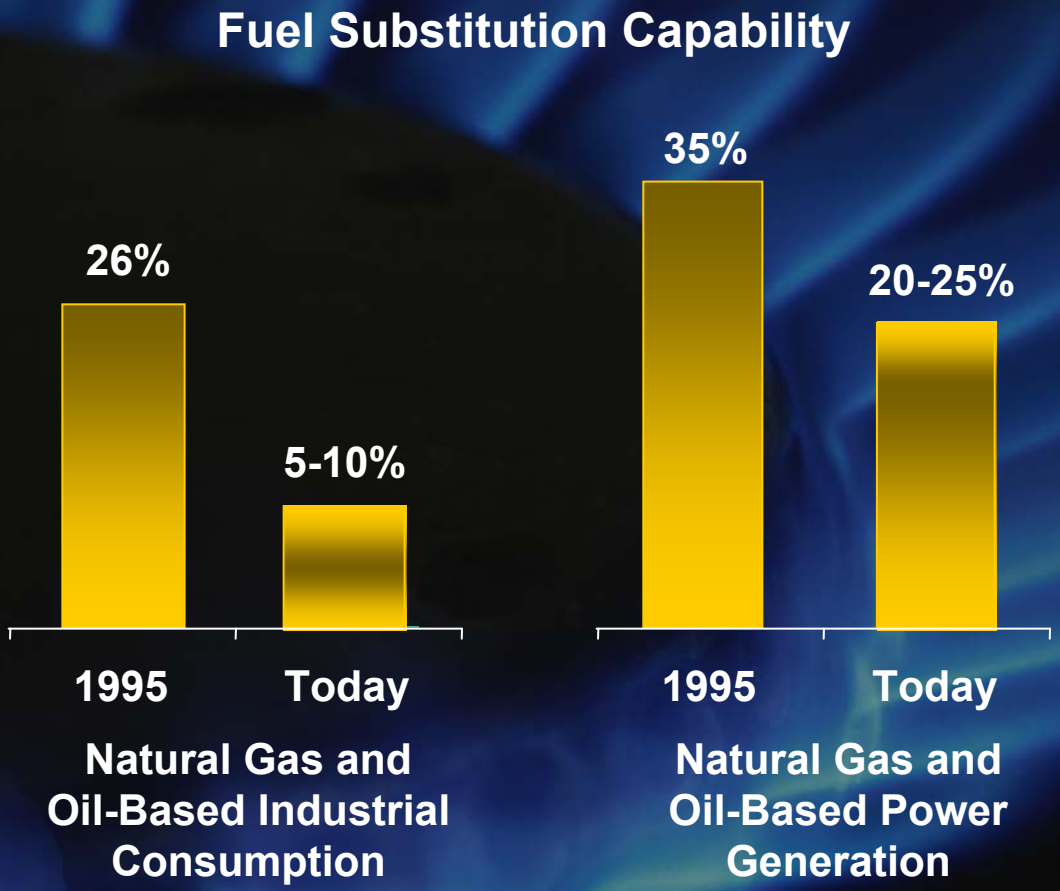
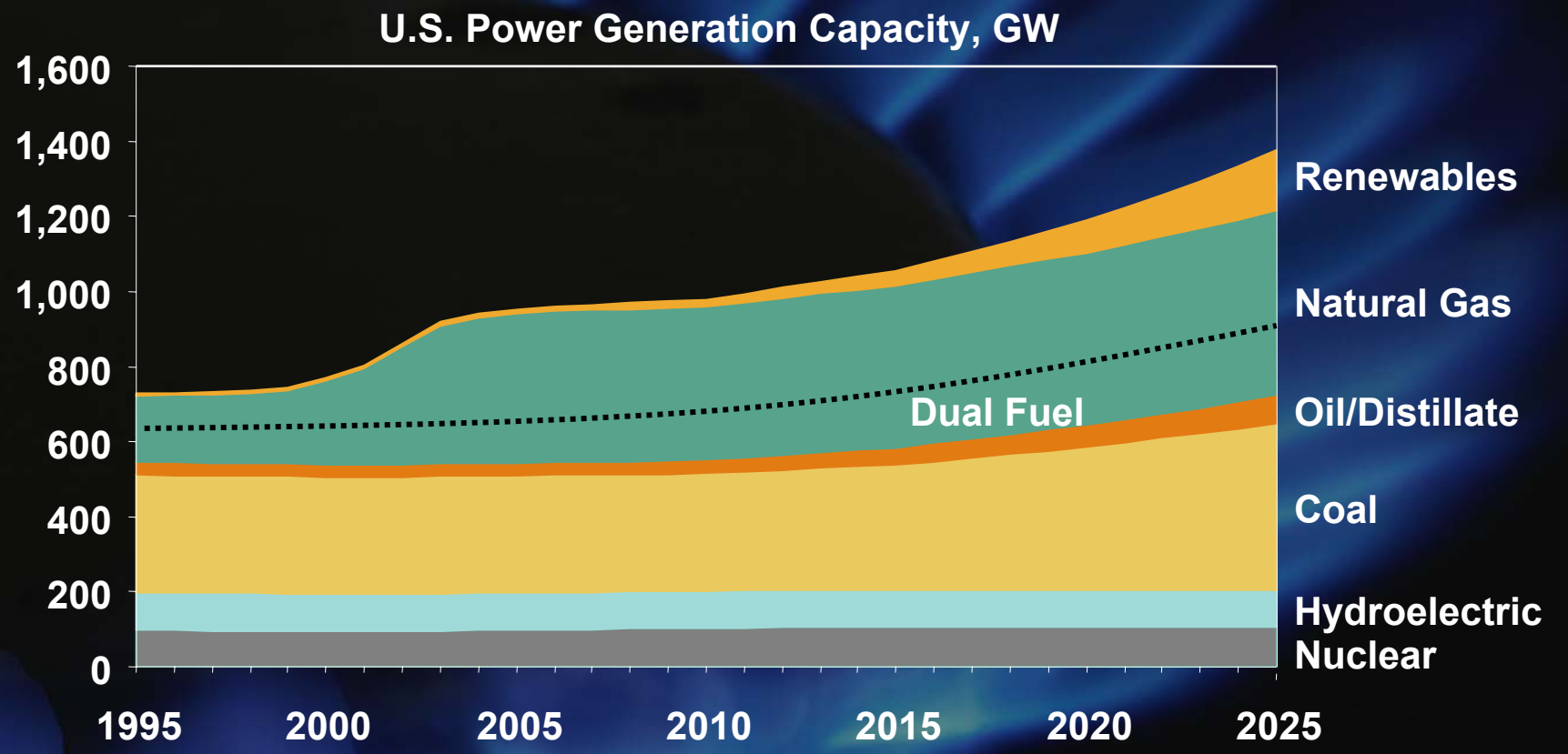
As Demand Has Grown, Flexibility Has Eroded



Finding: Gas consumption will grow, but such growth will be moderated as the most price-sensitive industries become less competitive, causing some industries and associated jobs to relocate outside North America.

The Gas-Fired Generation Buildup Has Reshaped Demand



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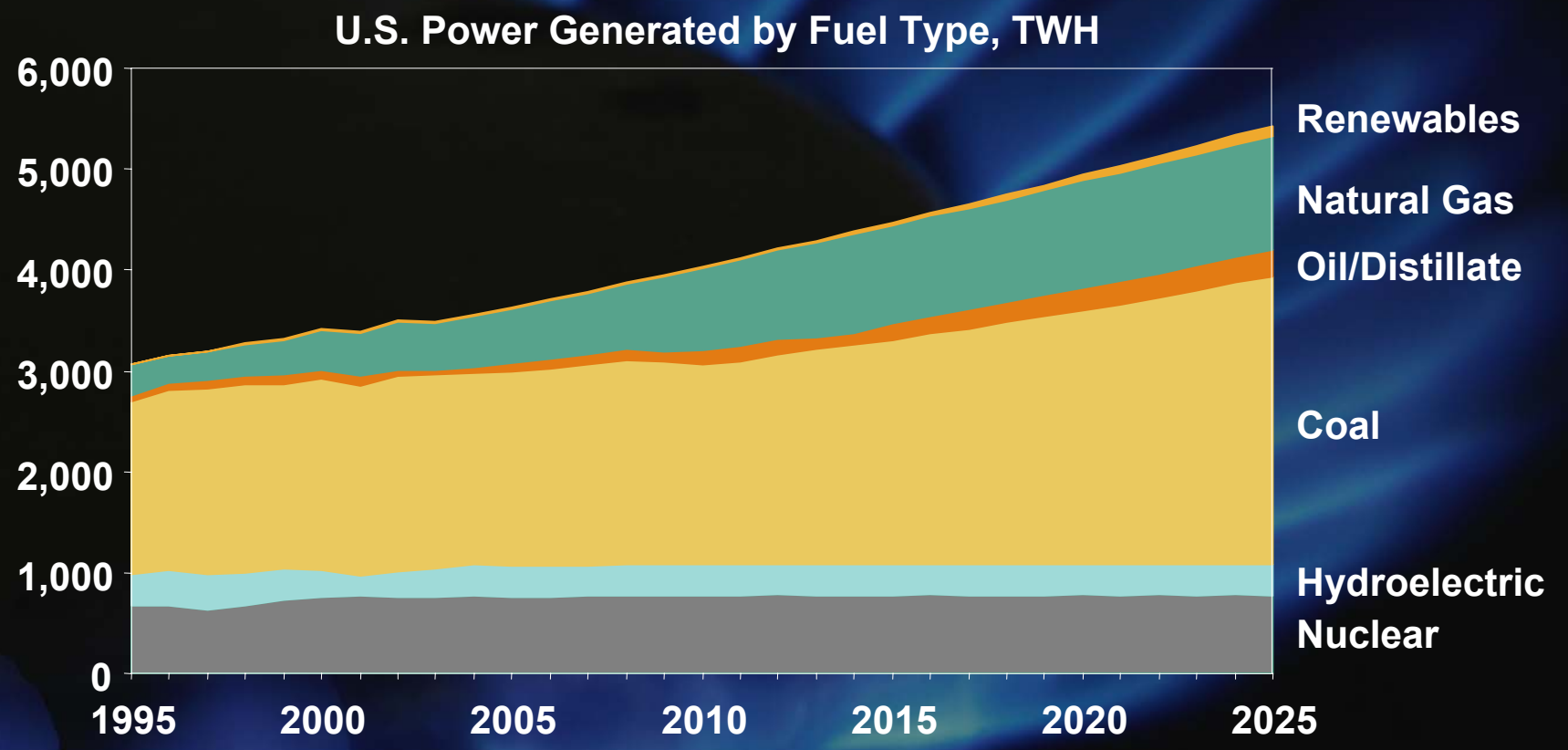
Gas Use Will Grow, but Other Generation Sources Will Compete



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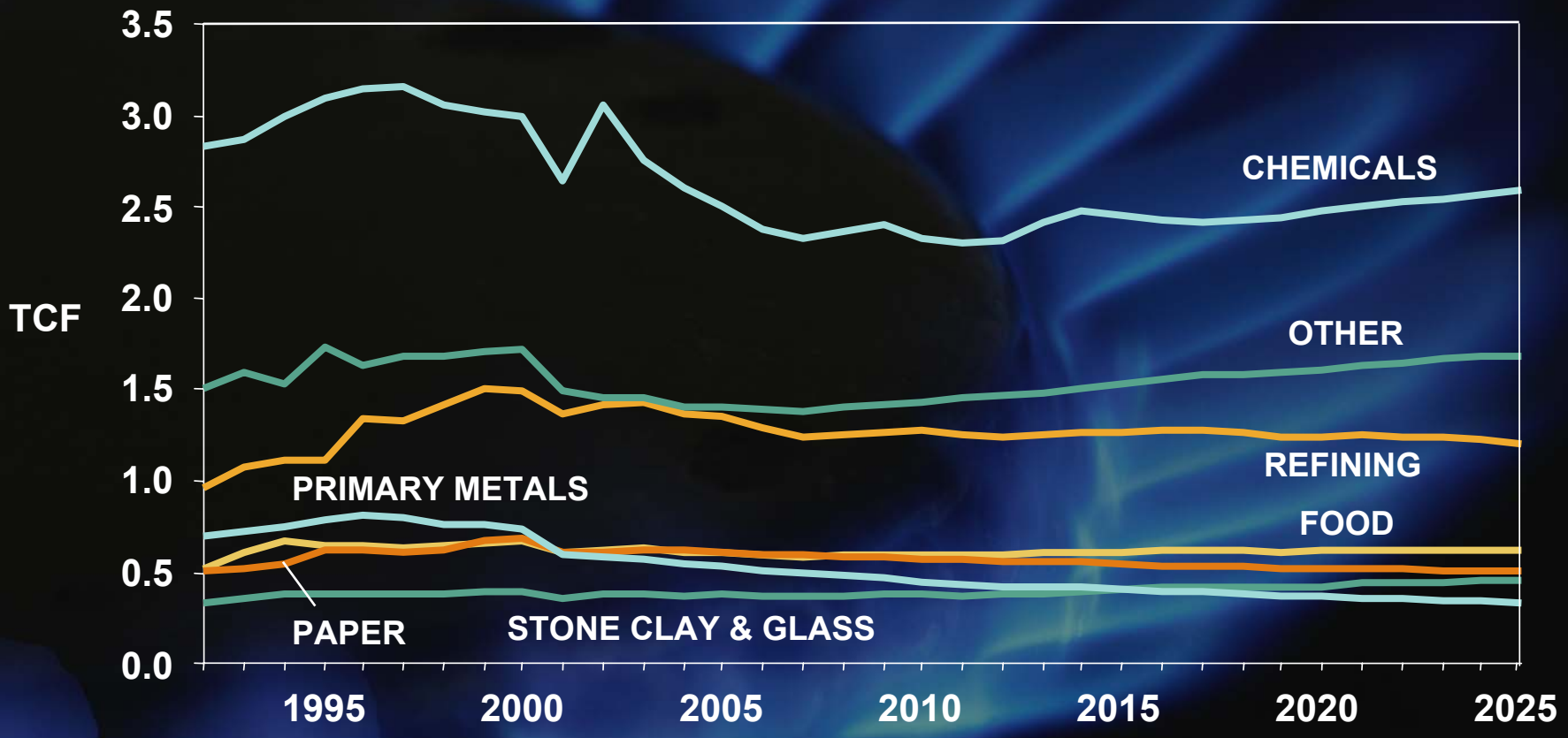
Higher Prices Impact Industrial Growth



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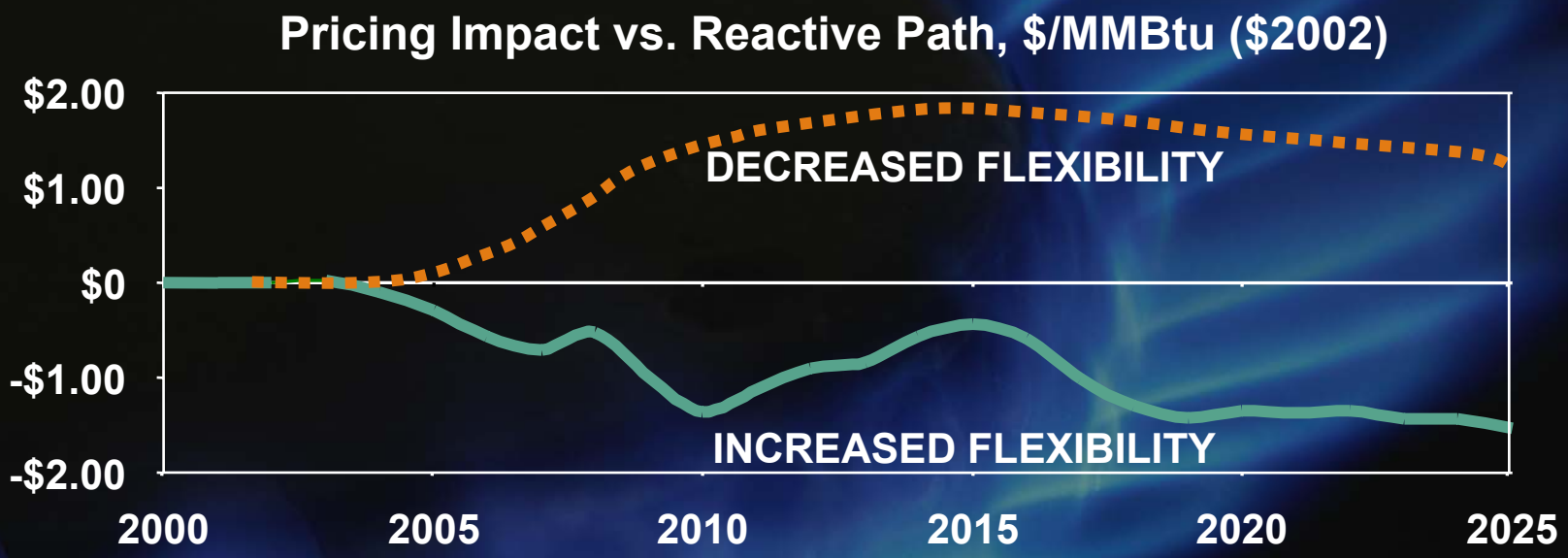
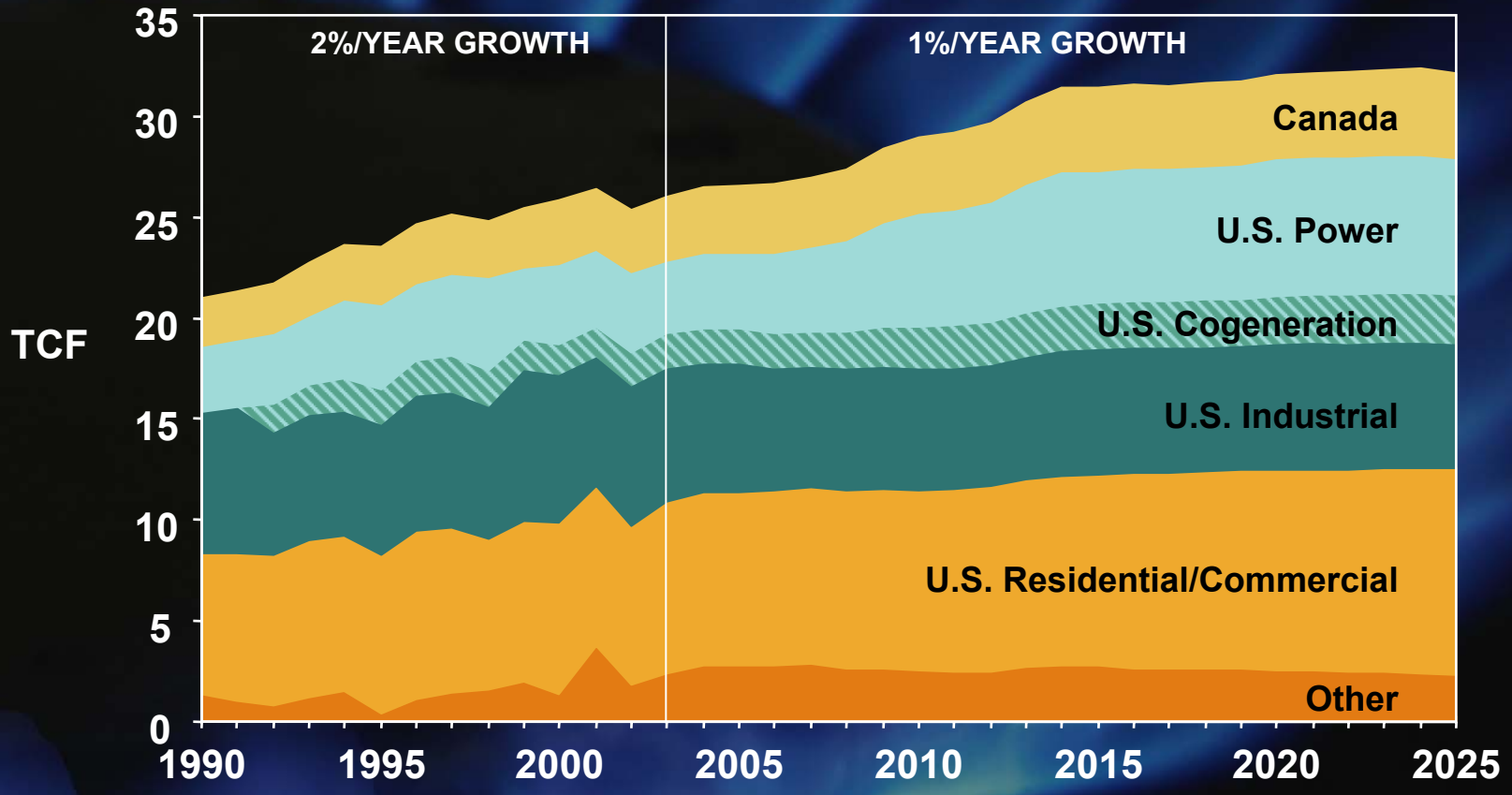
A Balanced Fuel Portfolio is Essential

Recommendation: Increase capability to utilize alternate fuels in power and industrial applications.



Overall Demand Growth Will Moderate, While the Power Sector Drives Growth



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NATURAL GAS SUPPLY

Mark A. Sikkel
ExxonMobil Production Company

The Supply Task Group Approach Was Comprehensive

- Conduct a review of the North American resource base
- Analyze historical production performance
- Evaluate new supply sources (LNG, Arctic)
- Consider effects of advancing technology and regulatory environment
- Focus on production outlook

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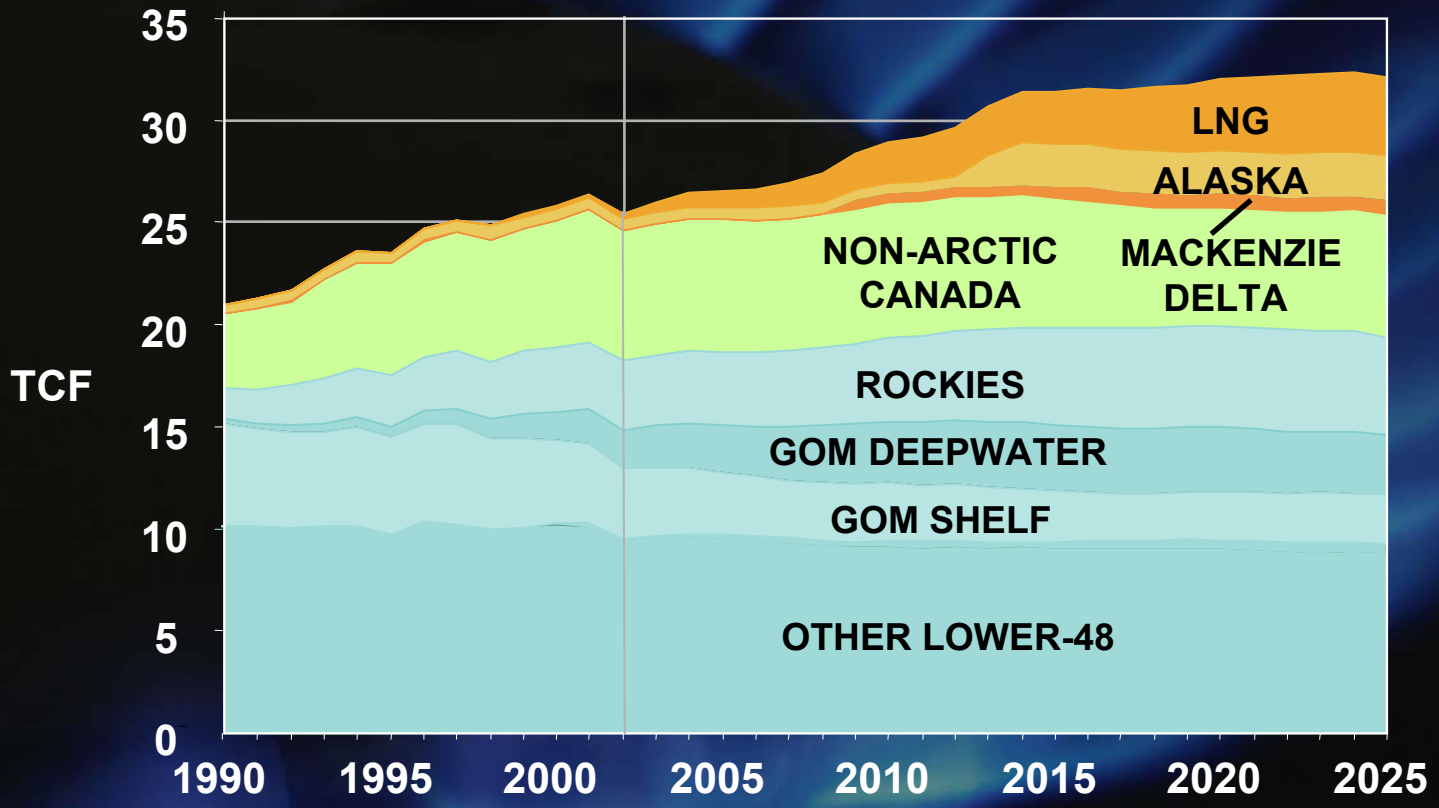
Future Supplies Come from Traditional and New Sources



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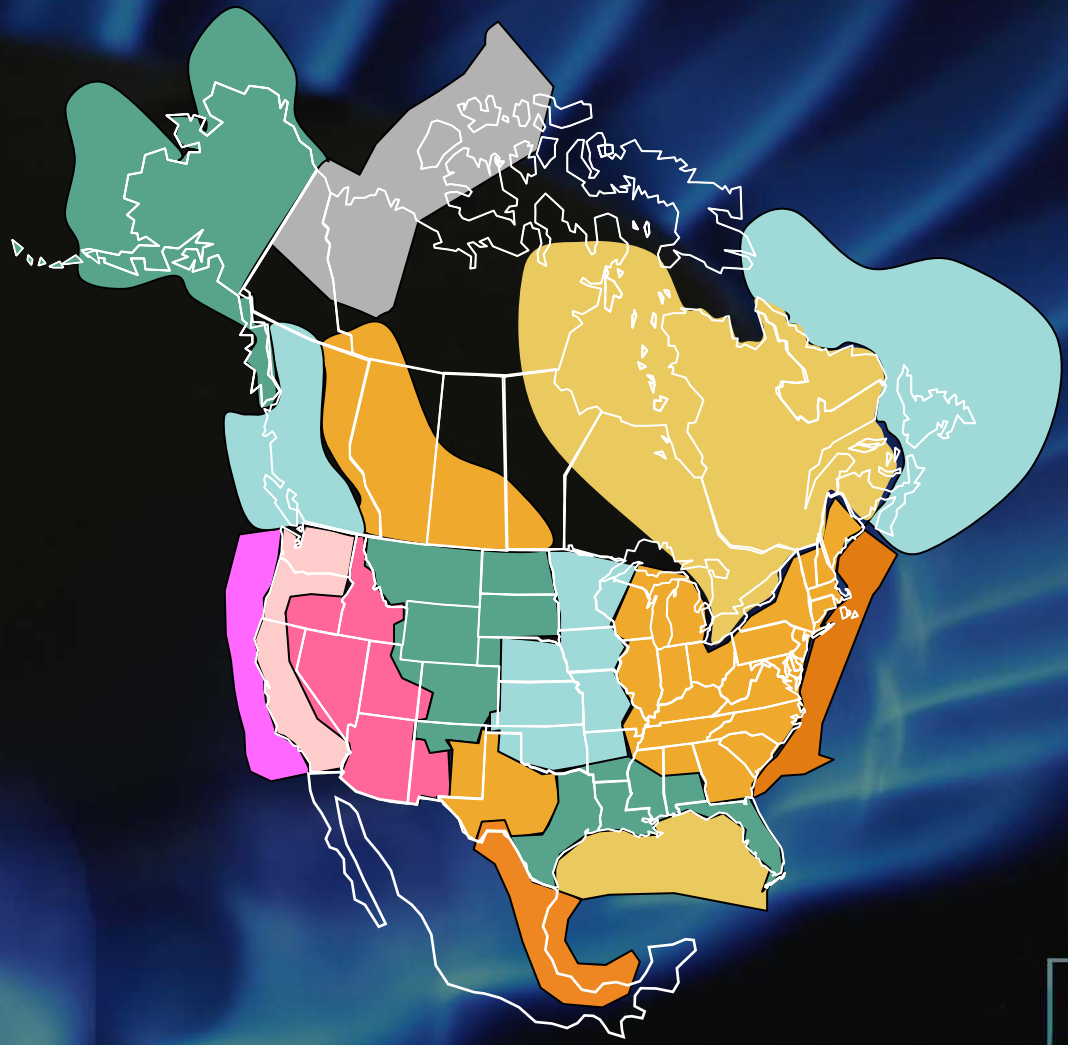
Finding: Traditional North American producing areas will provide 75% of long-term U.S. gas needs, but will be unable to meet projected demand.

North American Resource Base is Large and Diverse



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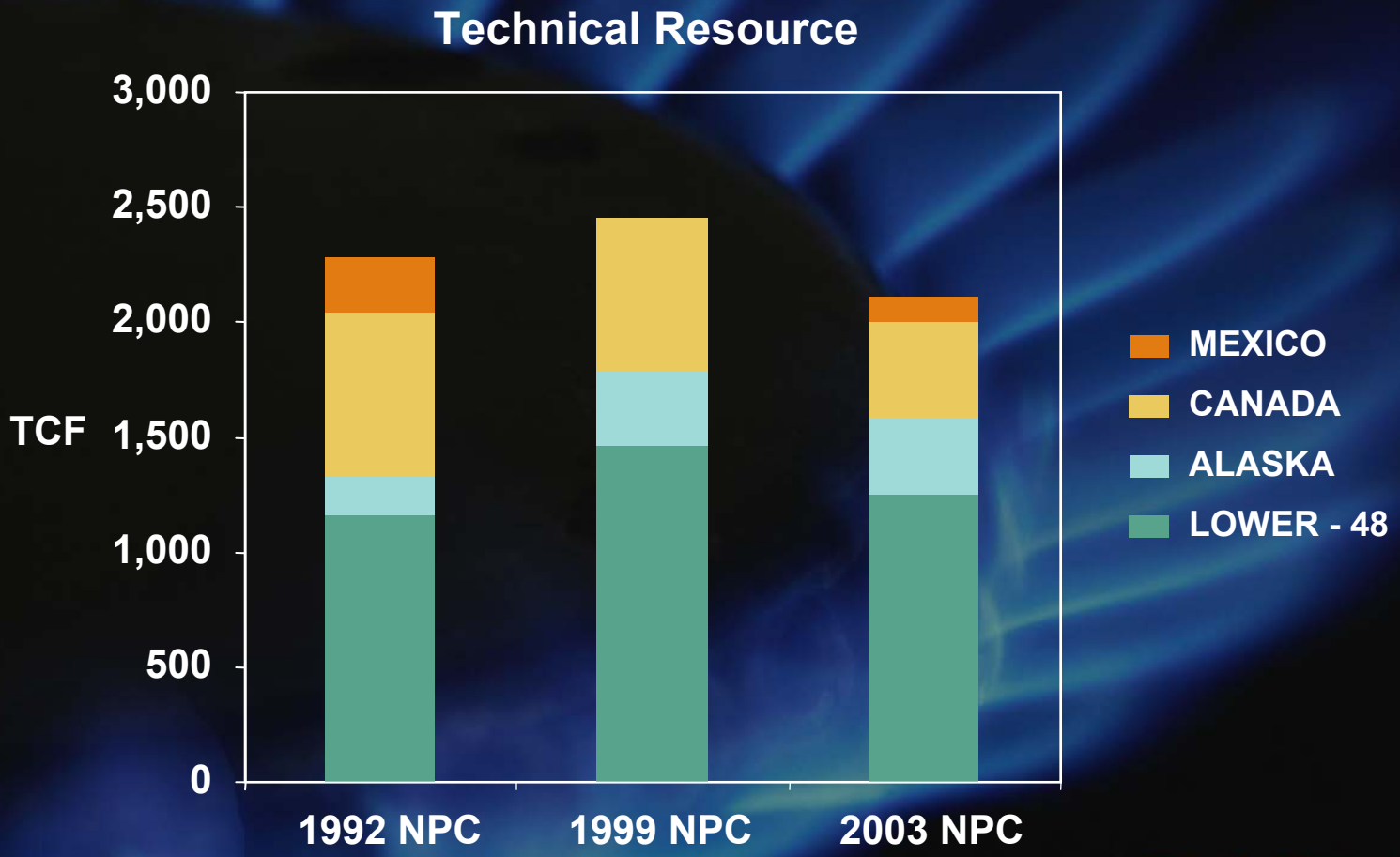
North American Resource Base Was Comprehensively Reviewed



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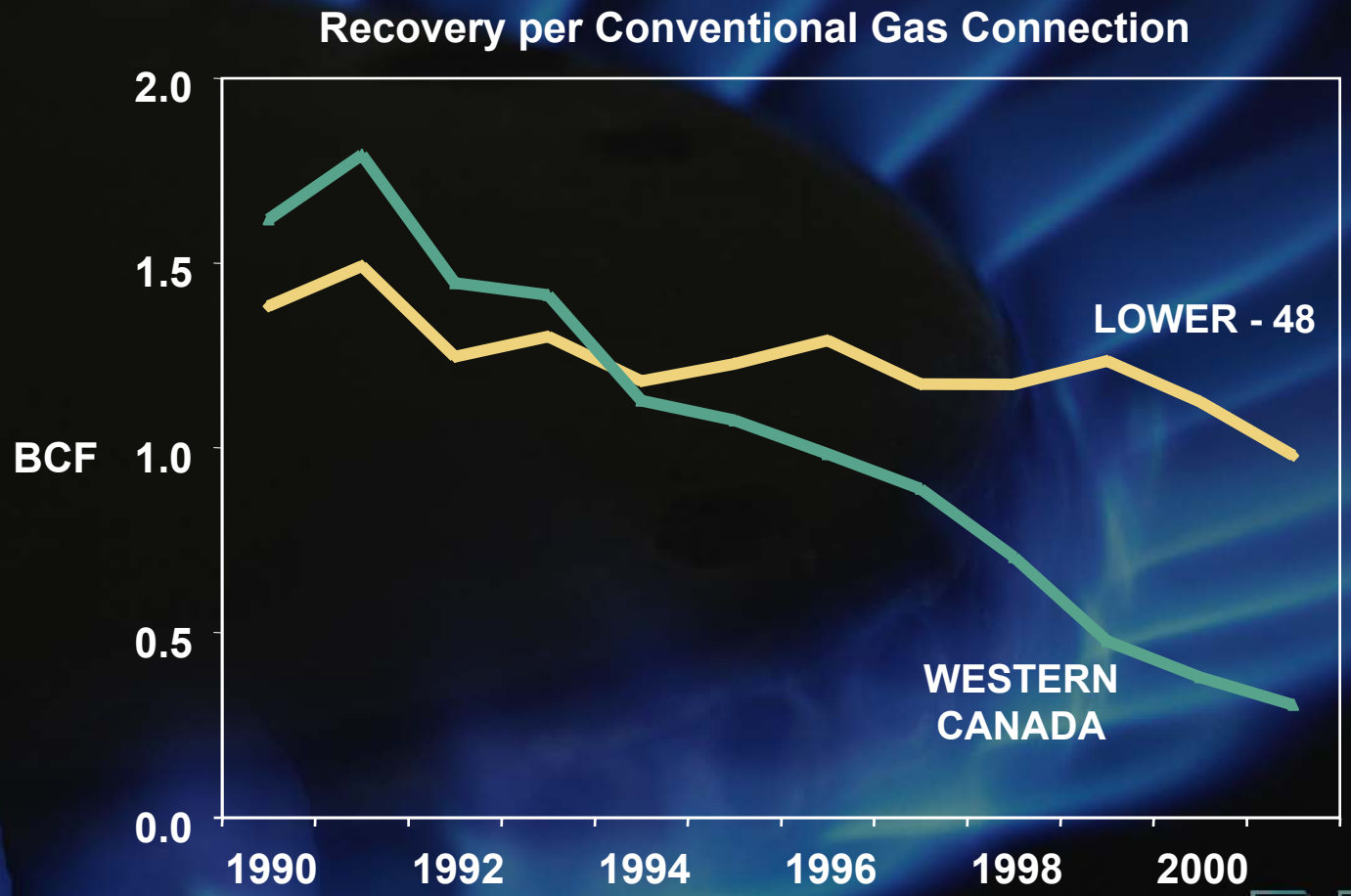
Production History Confirms a Maturing Resource Base



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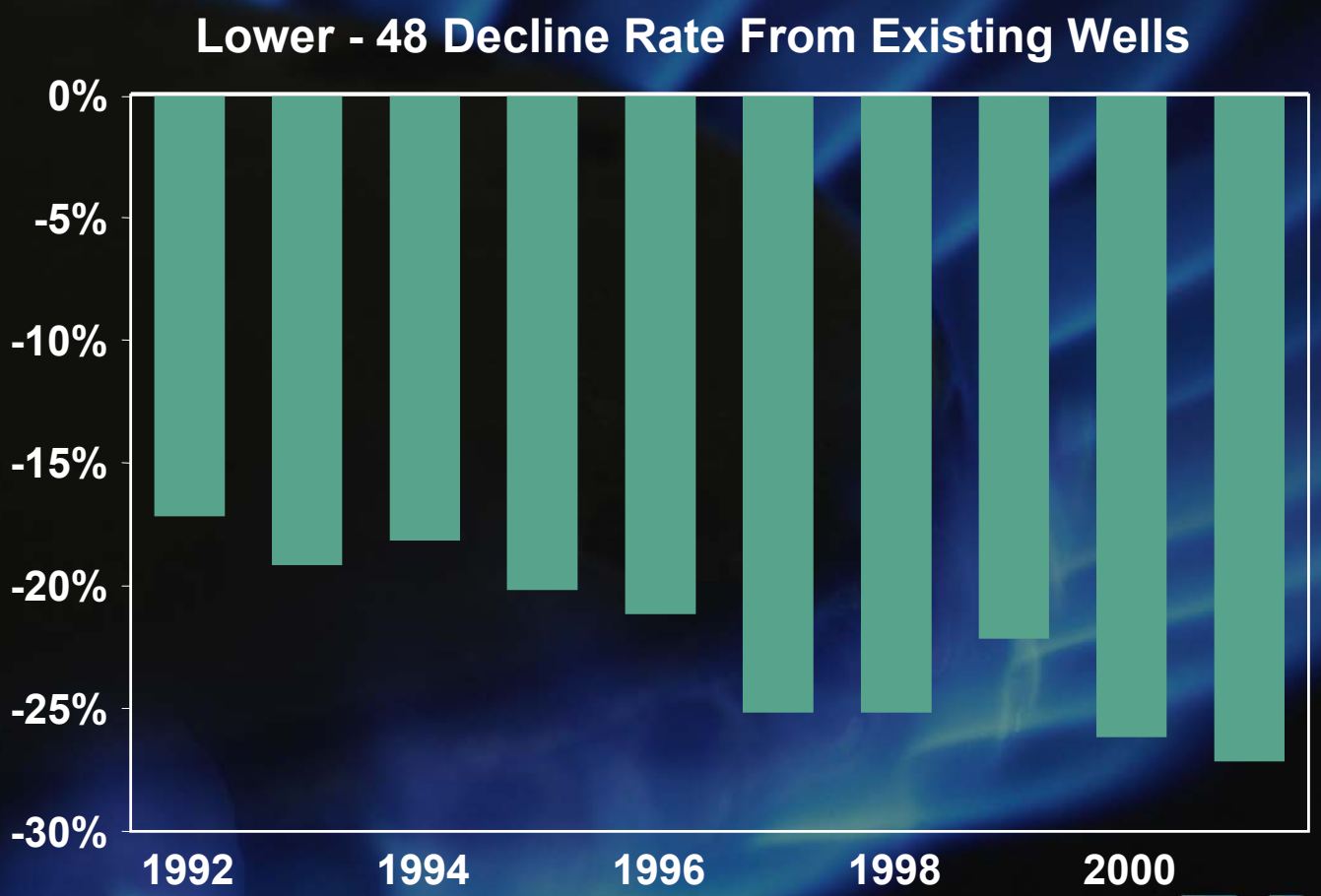
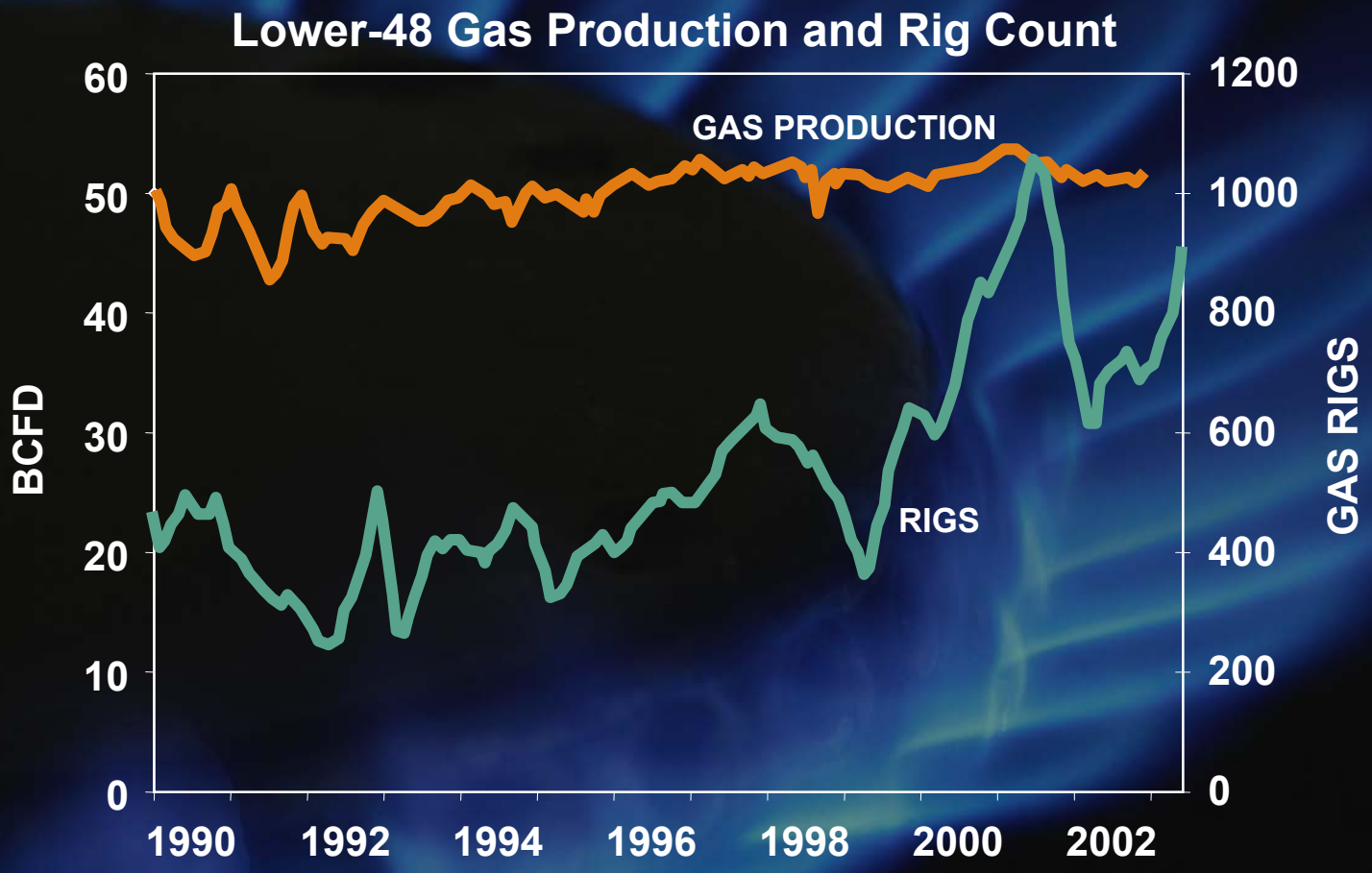
The Rate of Production Decline is Increasing



Production Response from Increased Drilling Has Been Modest



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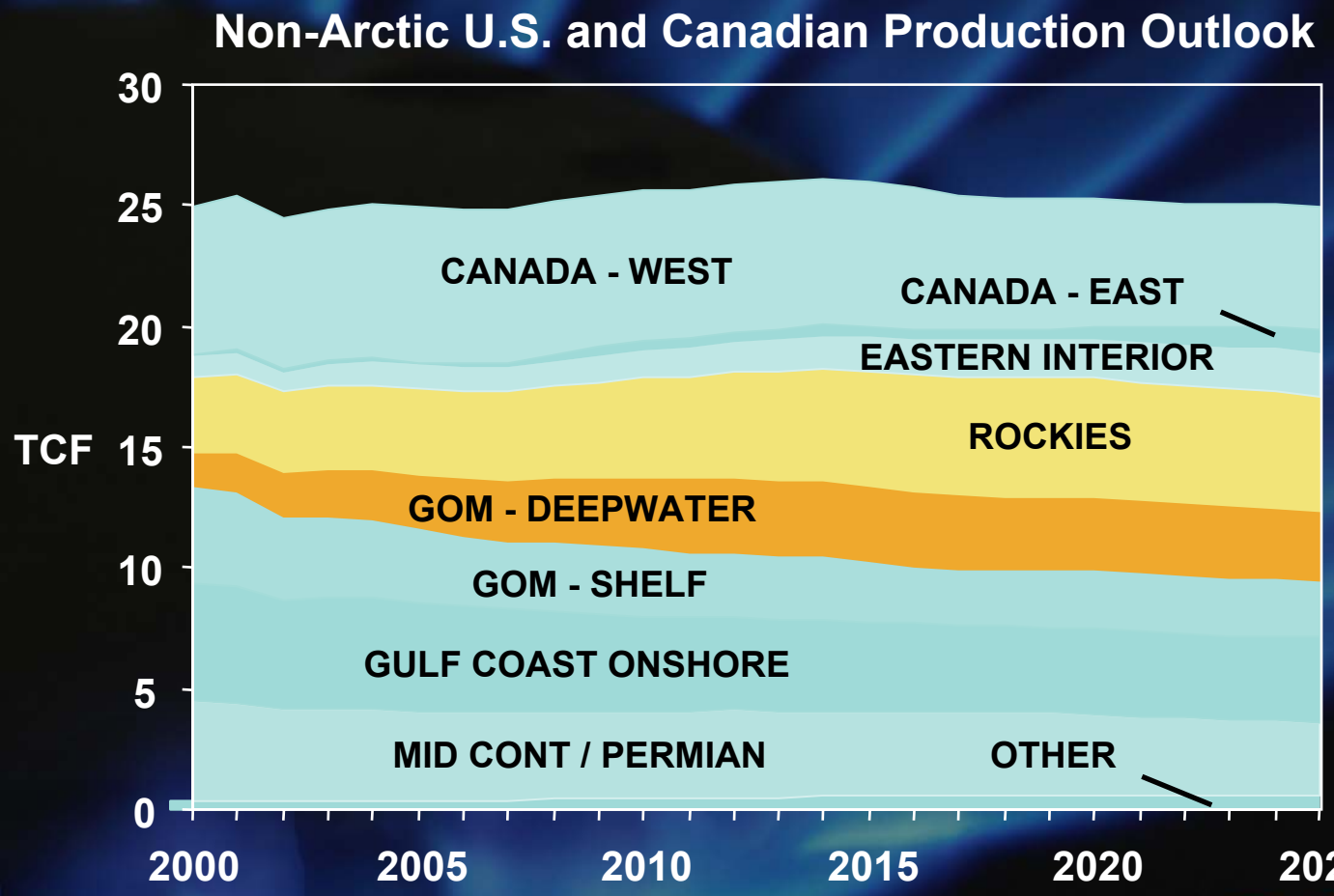
Rockies and Deepwater Gulf of Mexico Production Must Grow



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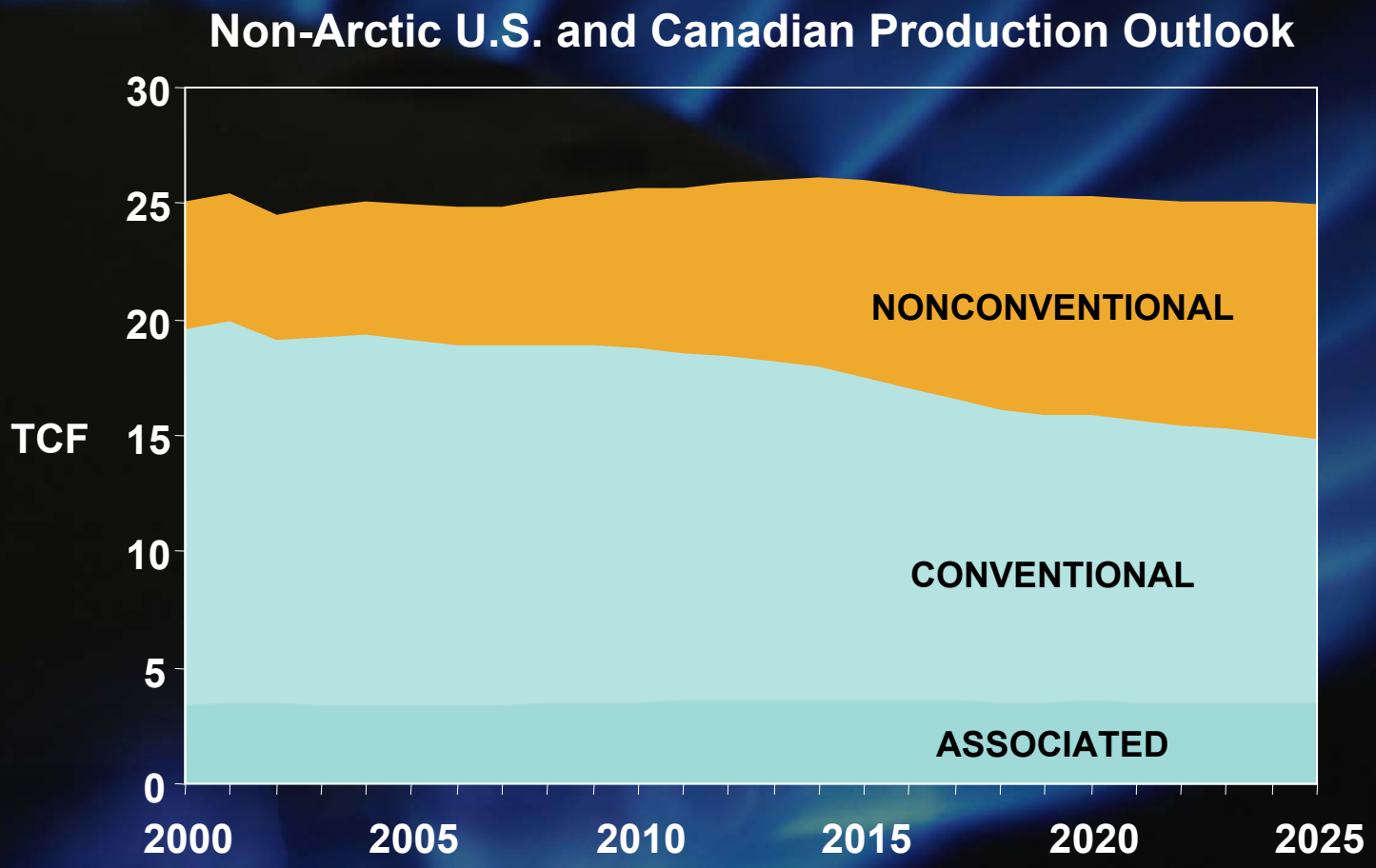
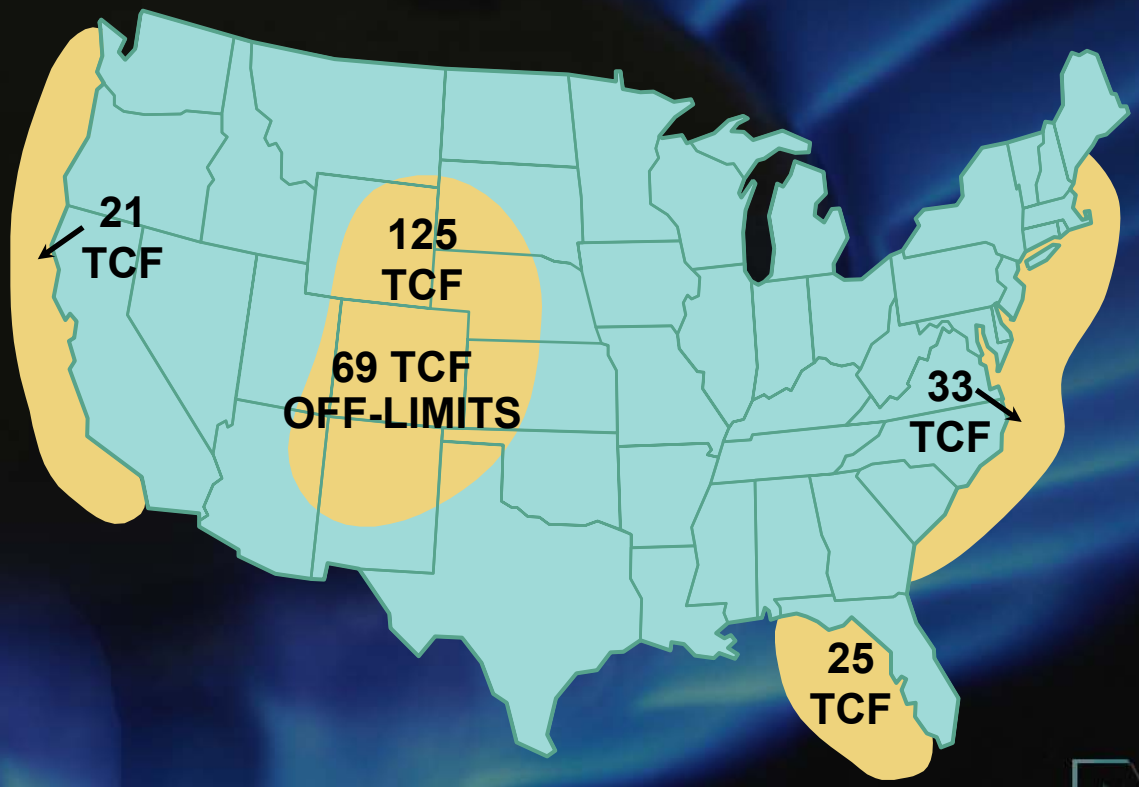
Nonconventional Production Must Grow



Finding: Increased access to U.S. resources (excluding designated wilderness areas and national parks) could save consumers $300 billion in natural gas costs over the next 20 years.

Indigenous Resources Are Not Fully Utilized

Technical Resource Impacted by Access Restrictions



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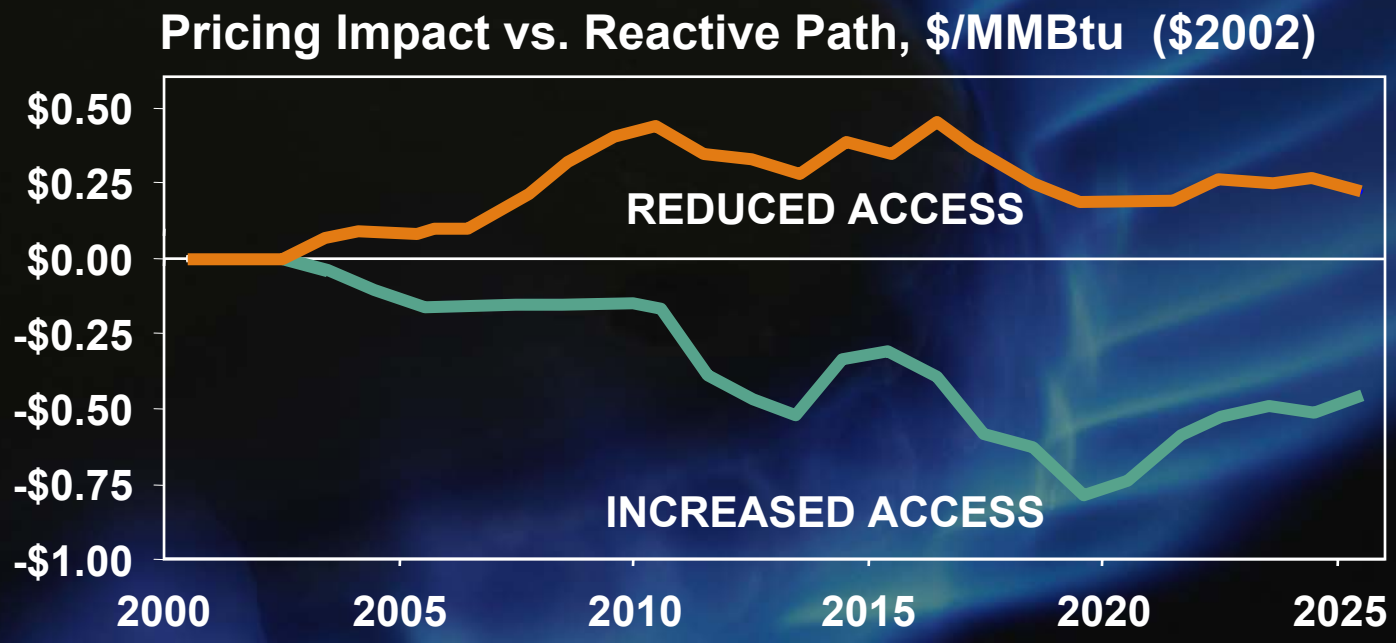
Increased Access Lowers Costs to Consumers

Recommendation: Increase access and reduce permitting impediments to development of Lower-48 natural gas resources.



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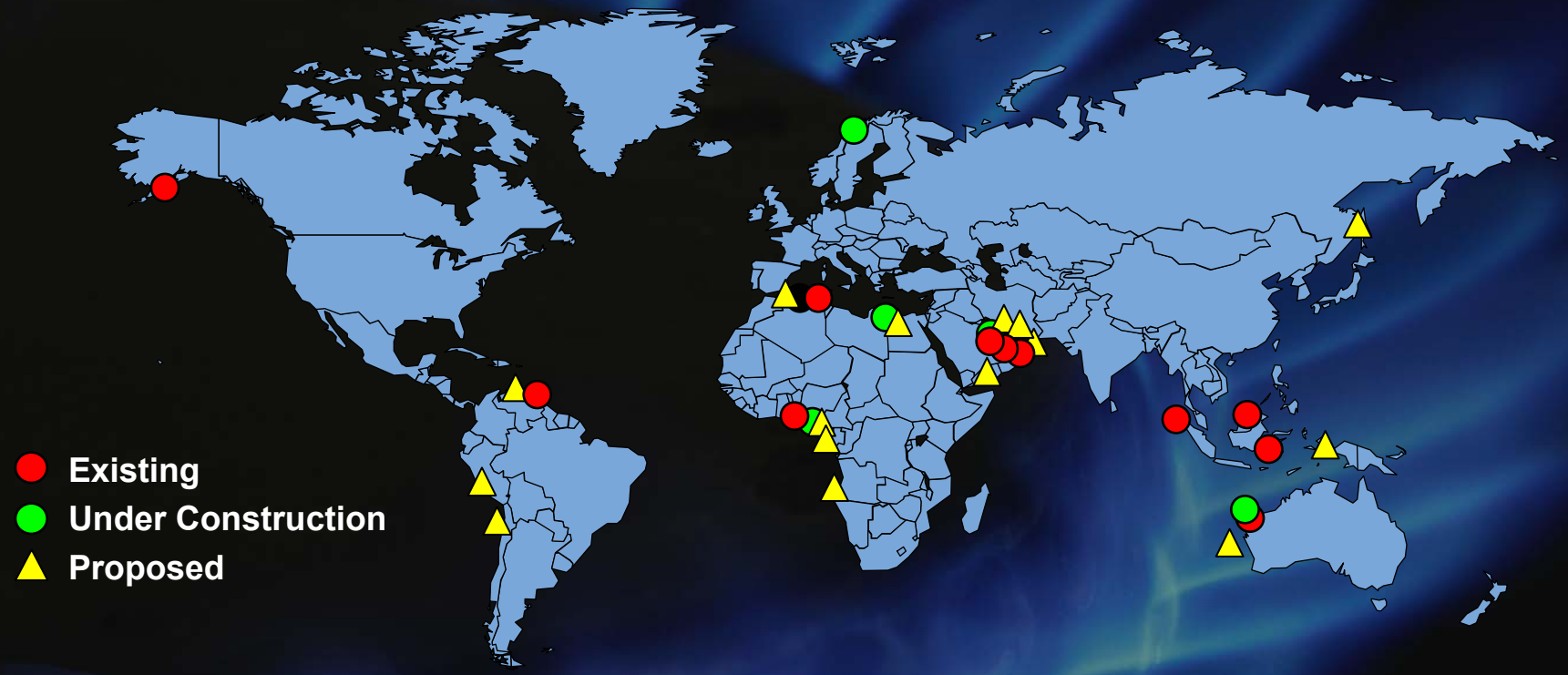
Finding: New, large-scale resources such as LNG and Arctic gas are available and could meet 20-25% of demand, but are higher-cost, have longer lead times, and face major barriers to development.

Worldwide Natural Gas Resources Are Vast

Global LNG Supply Facilities



Annual Global Consumption
< 2% of World Proved Reserves

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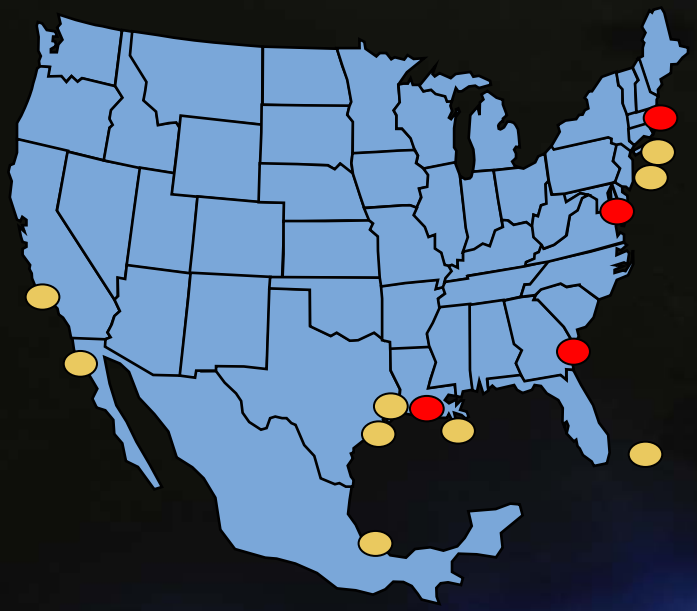
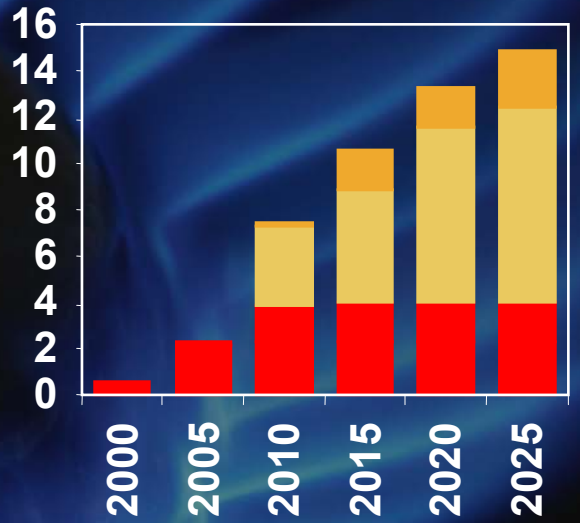
LNG Imports Are Needed, But Face Obstacles

Import Terminals



Existing
Potential

Projected Imports BCFD



New – Balanced Future
New – Reactive Path
Existing & Expansions

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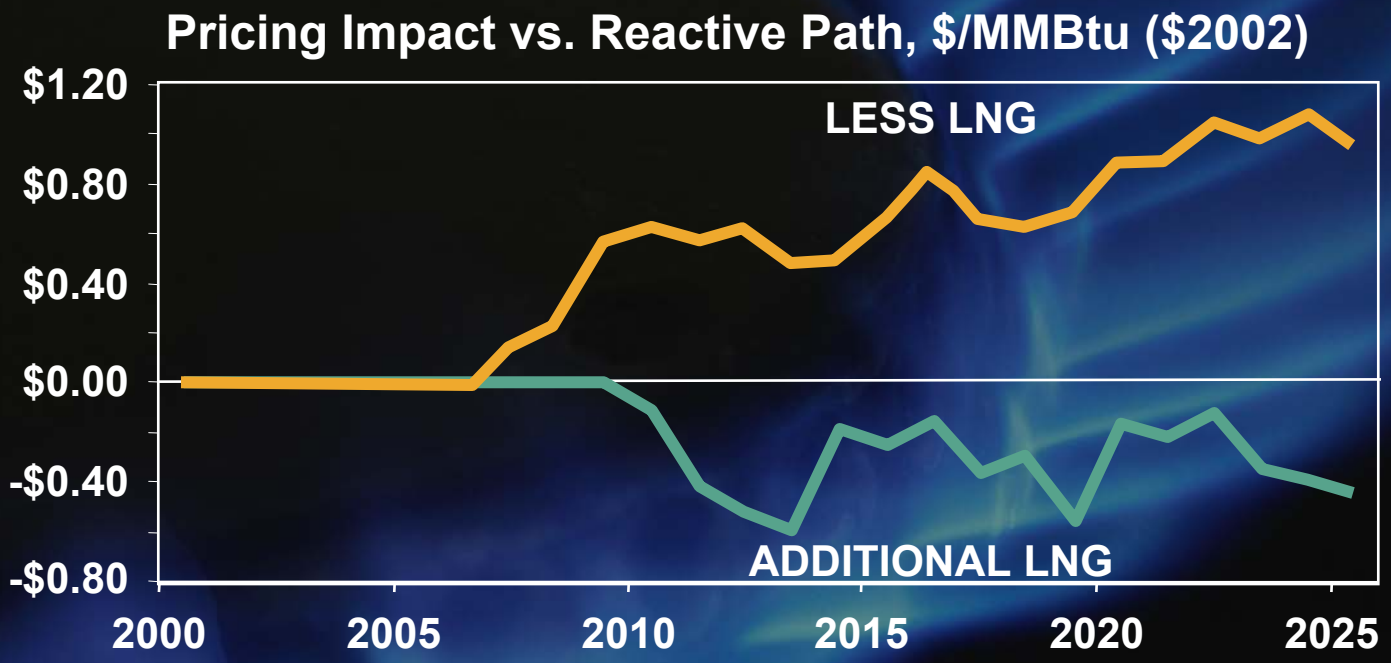
LNG Imports Can Lower Costs to Consumers

Recommendation: Process LNG project permit applications within one year.



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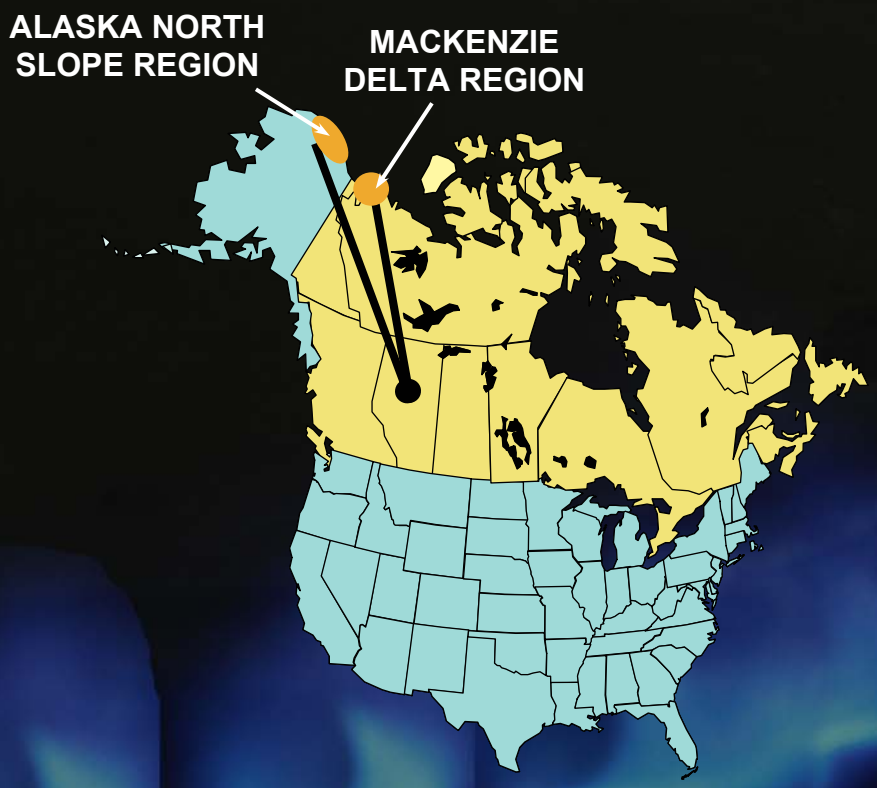
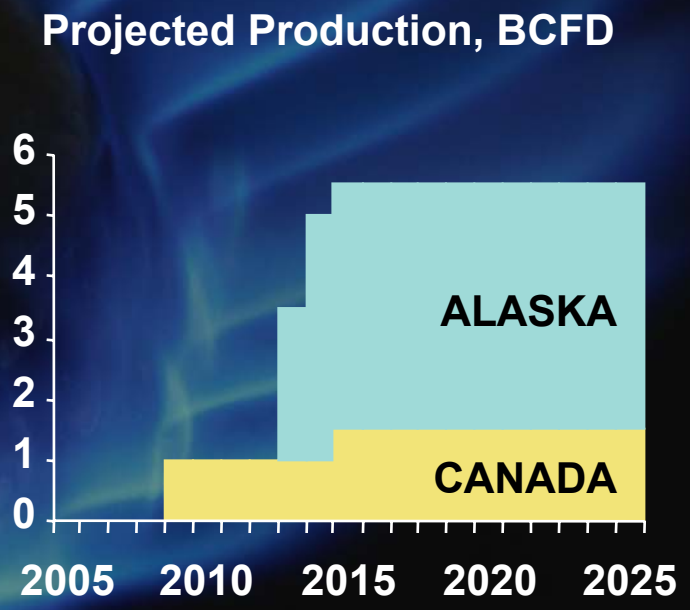
Arctic Pipeline Projects Can Deliver Important New Supplies

Recommendation: Enact enabling legislation in 2003 for an Alaska gas pipeline.





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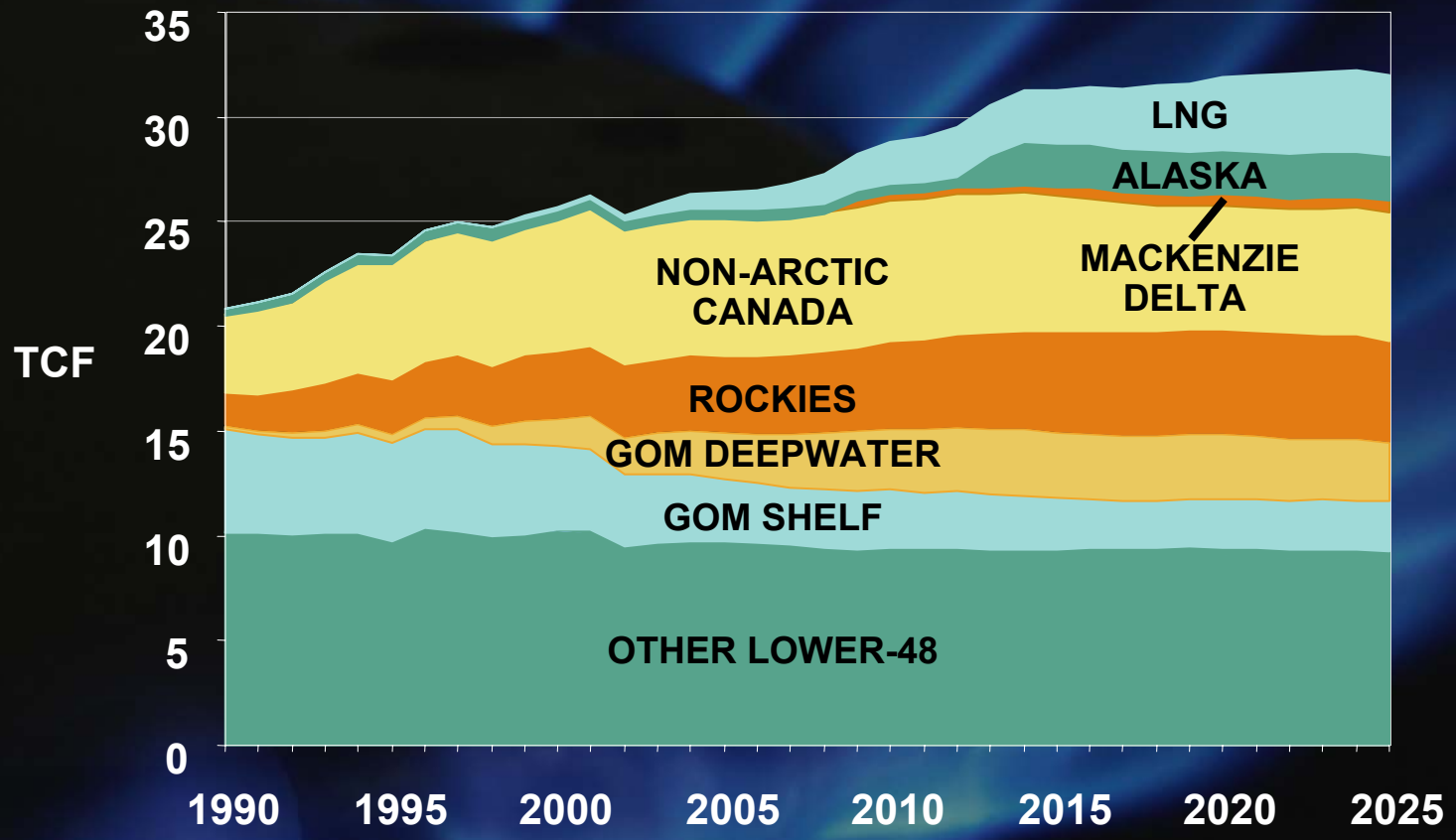
Demand is Met from Diverse Sources of Supply



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NATURAL GAS TRANSMISSION & DISTRIBUTION

Scott E. Parker
Kinder Morgan

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The T&D Task Group Conducted a Complete Review of U.S. and Canadian Infrastructure

- Review existing pipeline corridors
- Review current storage capacities
- Determine distribution facility needs
- Incorporate announced pipeline and storage projects
- Analyze cost to maintain transmission, storage, and distribution infrastructure

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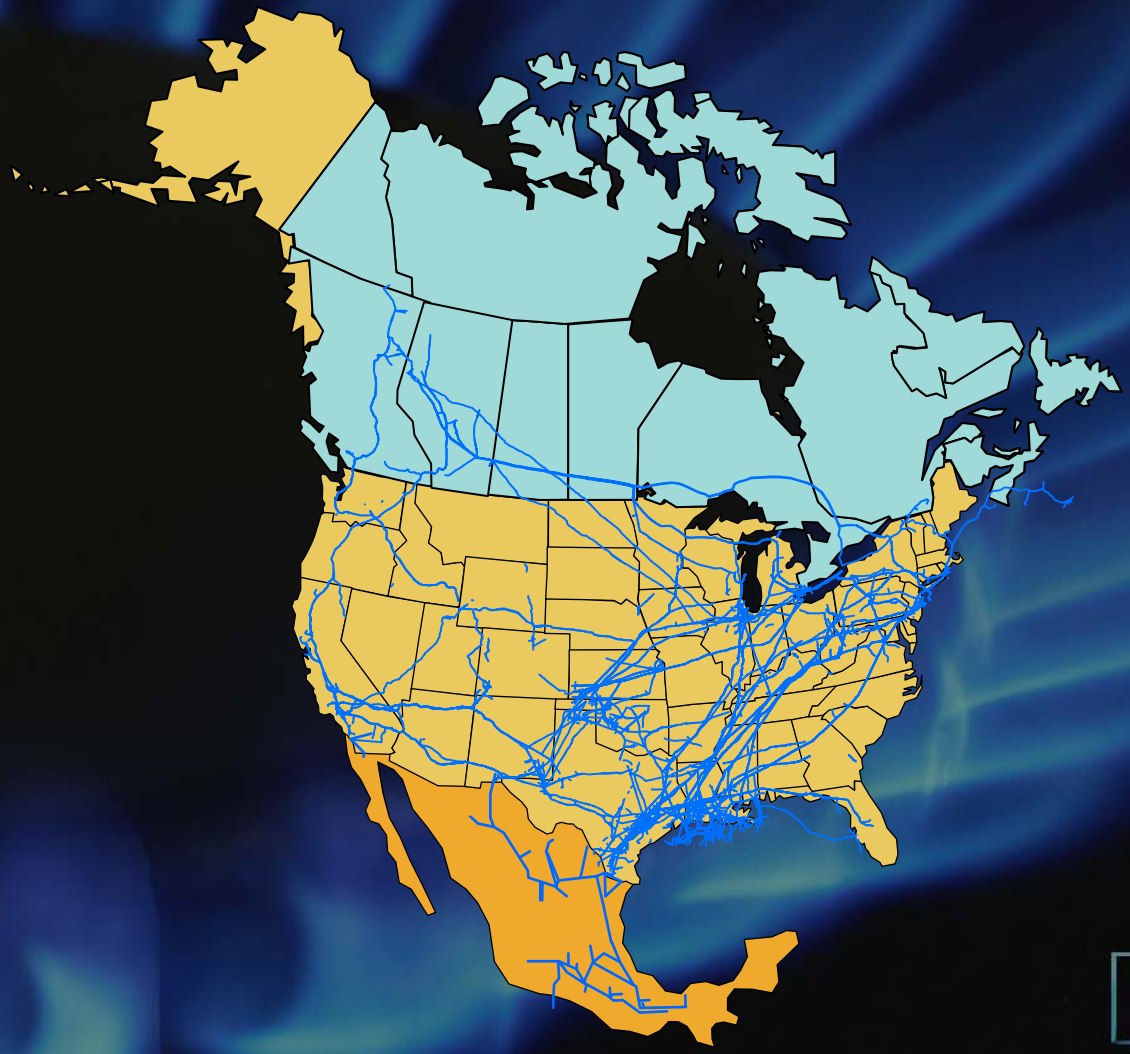
North America's Infrastructure is Extensive



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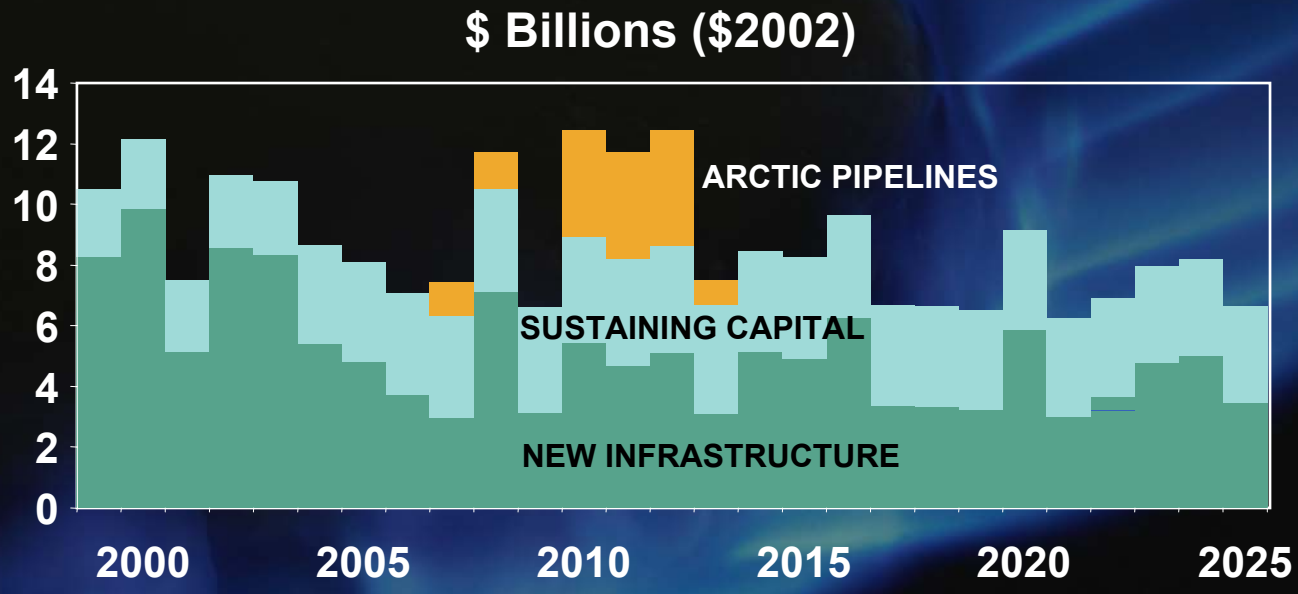
Finding: Pipeline and distribution investments will average $8 billion/year, with an increasing share required to sustain the reliability of existing infrastructure.

Sustaining Capital Will Be an Increasing Share of Total Infrastructure Investments

Recommendation: Federal and State regulators should provide regulatory certainty by maintaining a consistent cost recovery and contracting environment wherein the roles and rules are clearly identified and not changing.



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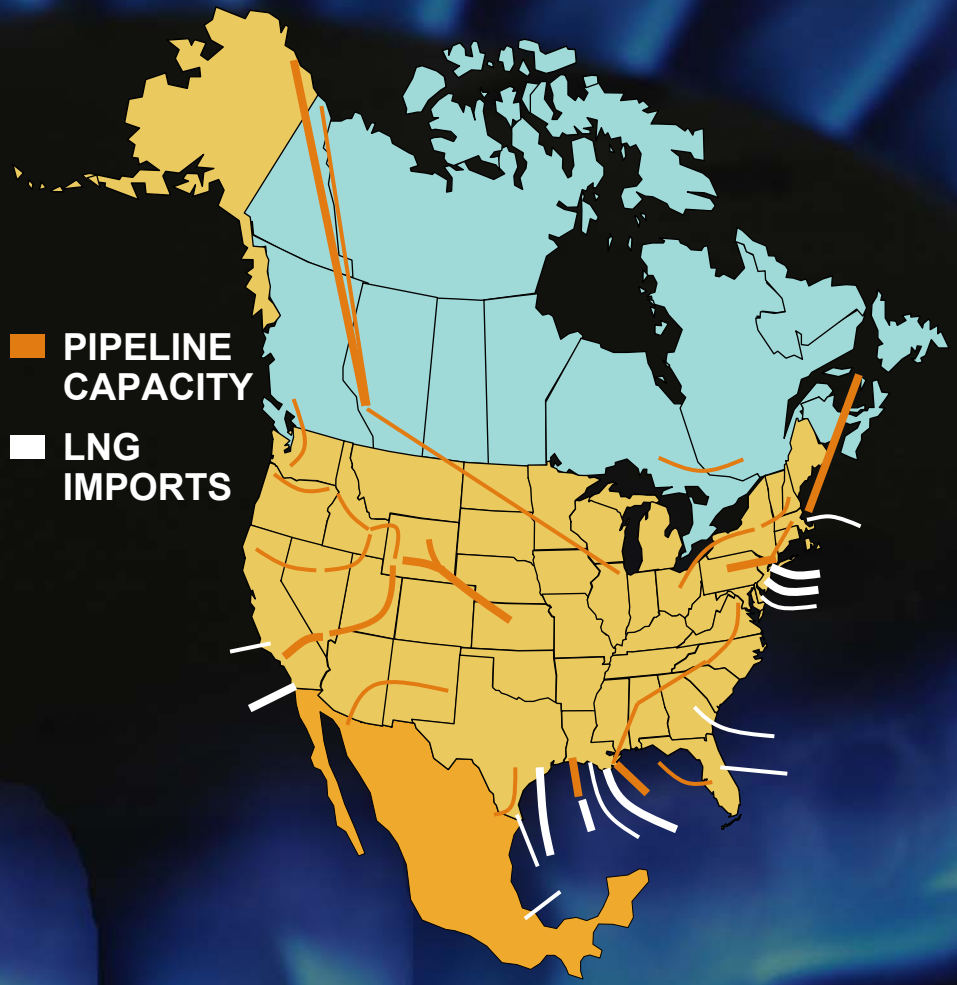
New Pipe Capacity is Driven by Areas of Supply Growth



Recommendation: Complete permit reviews of major infrastructure projects within a one-year period utilizing a "Joint Agency Review Process."

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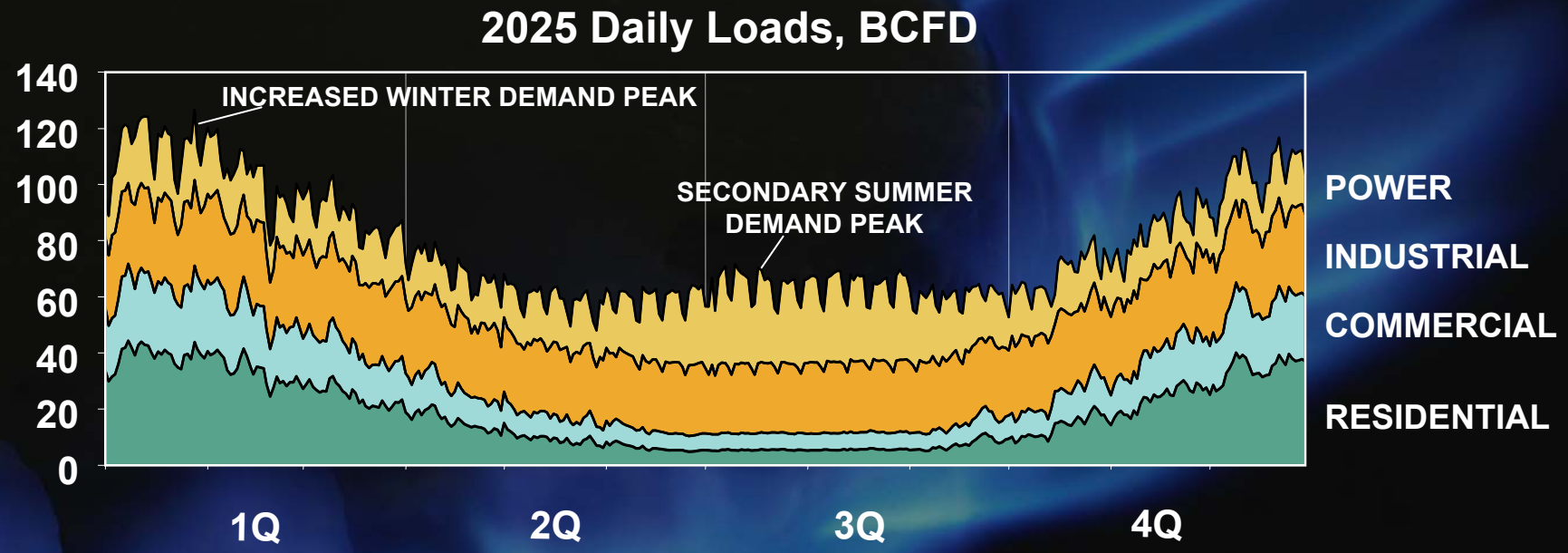
Peak Demands Are Becoming More Pronounced

Recommendation: FERC should allow operators to configure transportation and storage infrastructure and related tariff services to meet changing market demand profiles.



Research Plays a Significant Role in Distribution Cost Control

Recommendation: Regulators should encourage collaborative research into more efficient and less expensive infrastructure options.

- Enhanced safety
- Improved replacement techniques with less disturbance
- Enhanced locating technologies
- Advanced environmental remediation

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Finding: Regulatory barriers to long-term contracts for transportation and storage impair infrastructure investment.

Barriers to Long-Term Contracts Inhibit Infrastructure Development

Recommendation: Regulatory policies should address the barriers to long-term, firm contracts for entities providing service to human needs customers.

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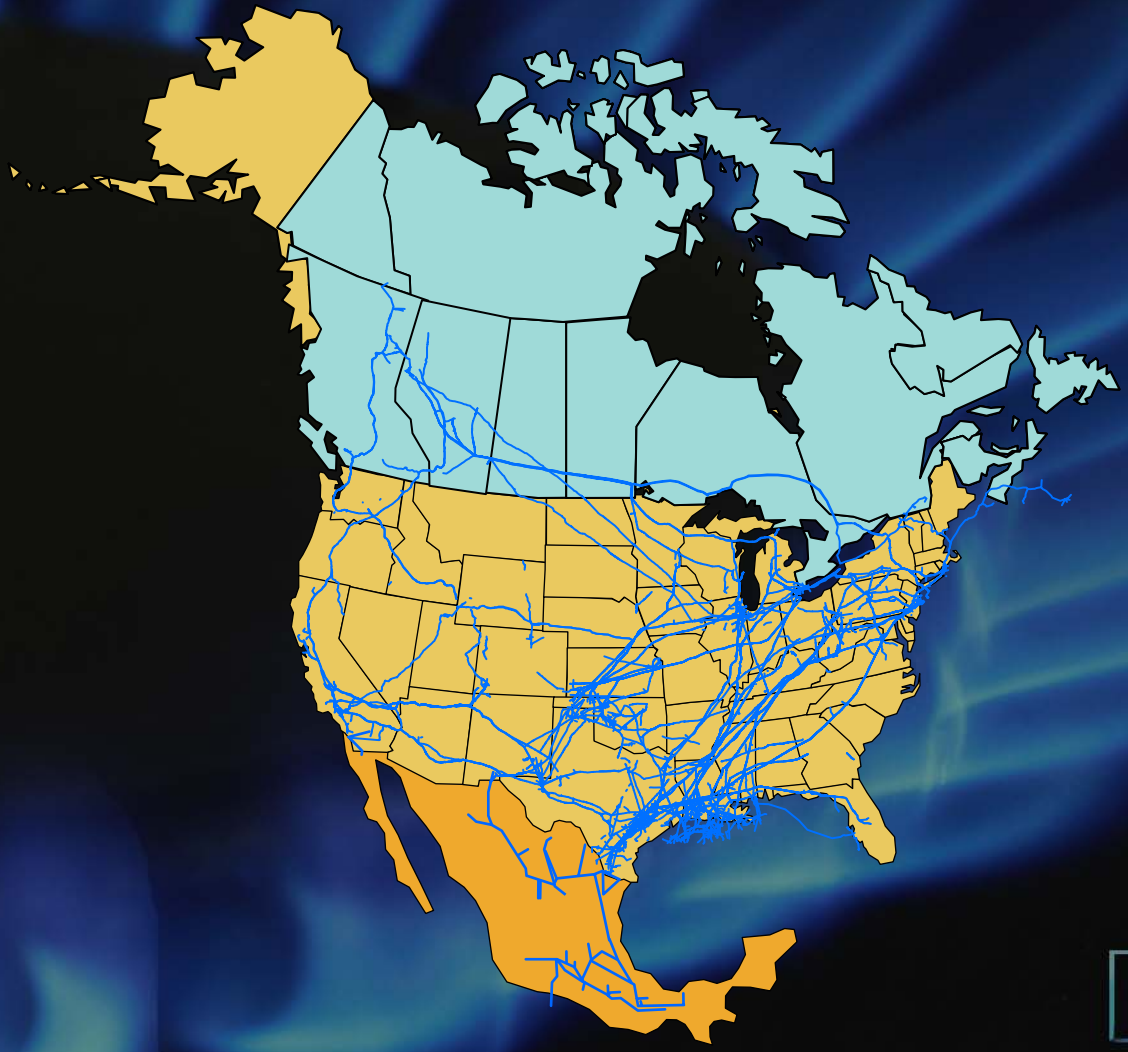
North America's Extensive Infrastructure Must Be Maintained



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CLOSING

Jerry J. Langdon
Reliant Resources, Inc.

Finding: Price volatility is a fundamental aspect of a free market, reflecting the variable nature of demand and supply; physical and risk management tools allow many market participants to moderate the effects of volatility.

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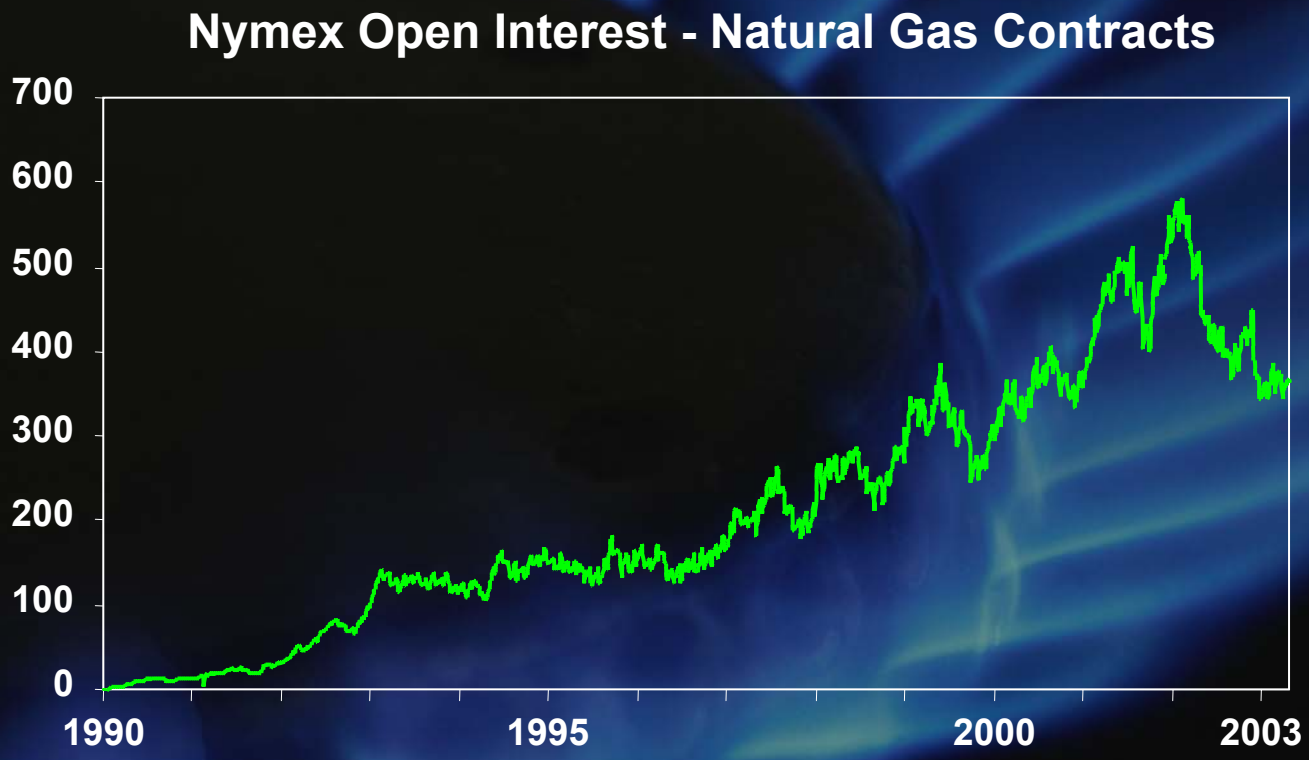
The Natural Gas Market Works

Recommendation: Promote Efficient Markets by Improving Price Transparency, Market Data Reporting, Liquidity.



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Finding: A balanced future that includes increased energy efficiency, immediate development of new resources, and flexibility in fuel choice could save $1 trillion in U.S. natural gas costs over the next 20 years. Public policy must support these objectives.

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Action is Required in All These Areas

Improve demand flexibility & efficiency

and

Increase supply diversity

and

Sustain and enhance infrastructure

and

Promote efficient markets

Higher economic growth

Higher employment

Stronger industrial activity

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