



The Story Of The U.S. And Canada's Natural Gas

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BALANCING NATURAL GAS POLICY

Fueling the Demands of a Growing Economy

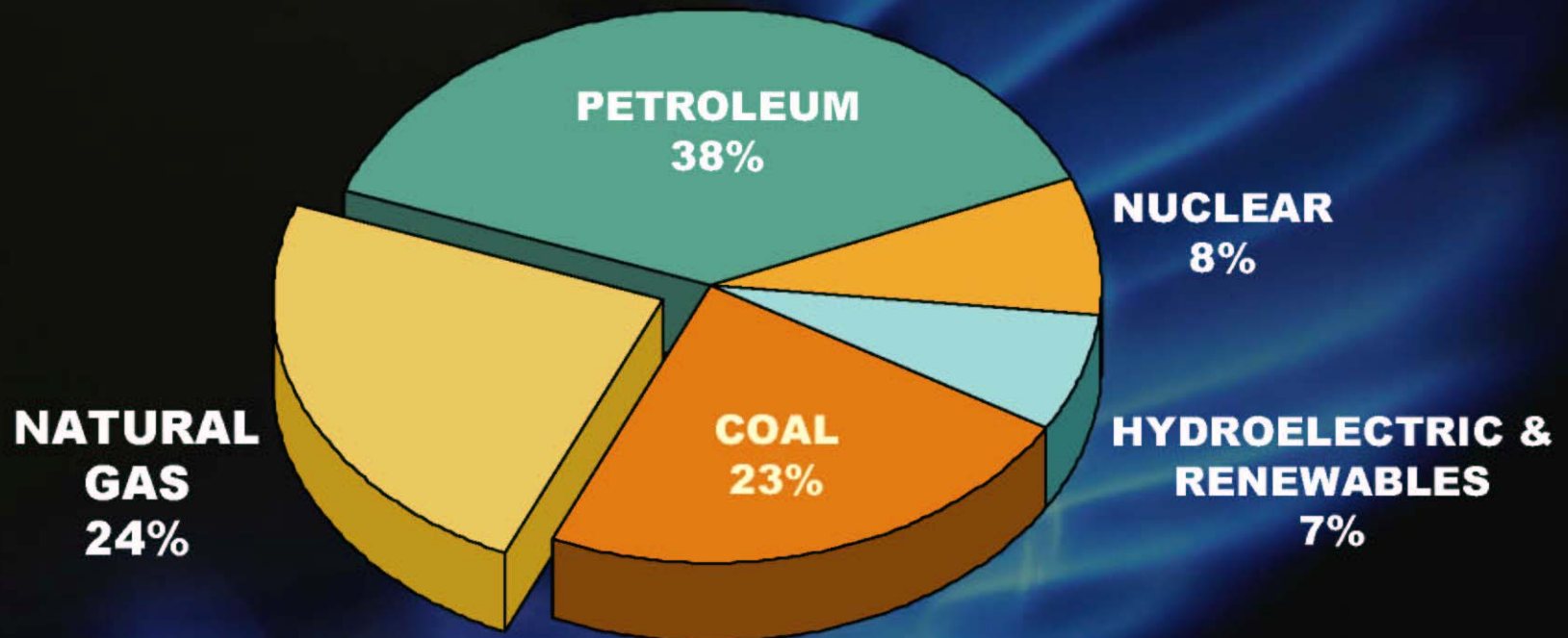
**Committee on Natural Gas Presentation
to the National Petroleum Council**

September 25, 2003

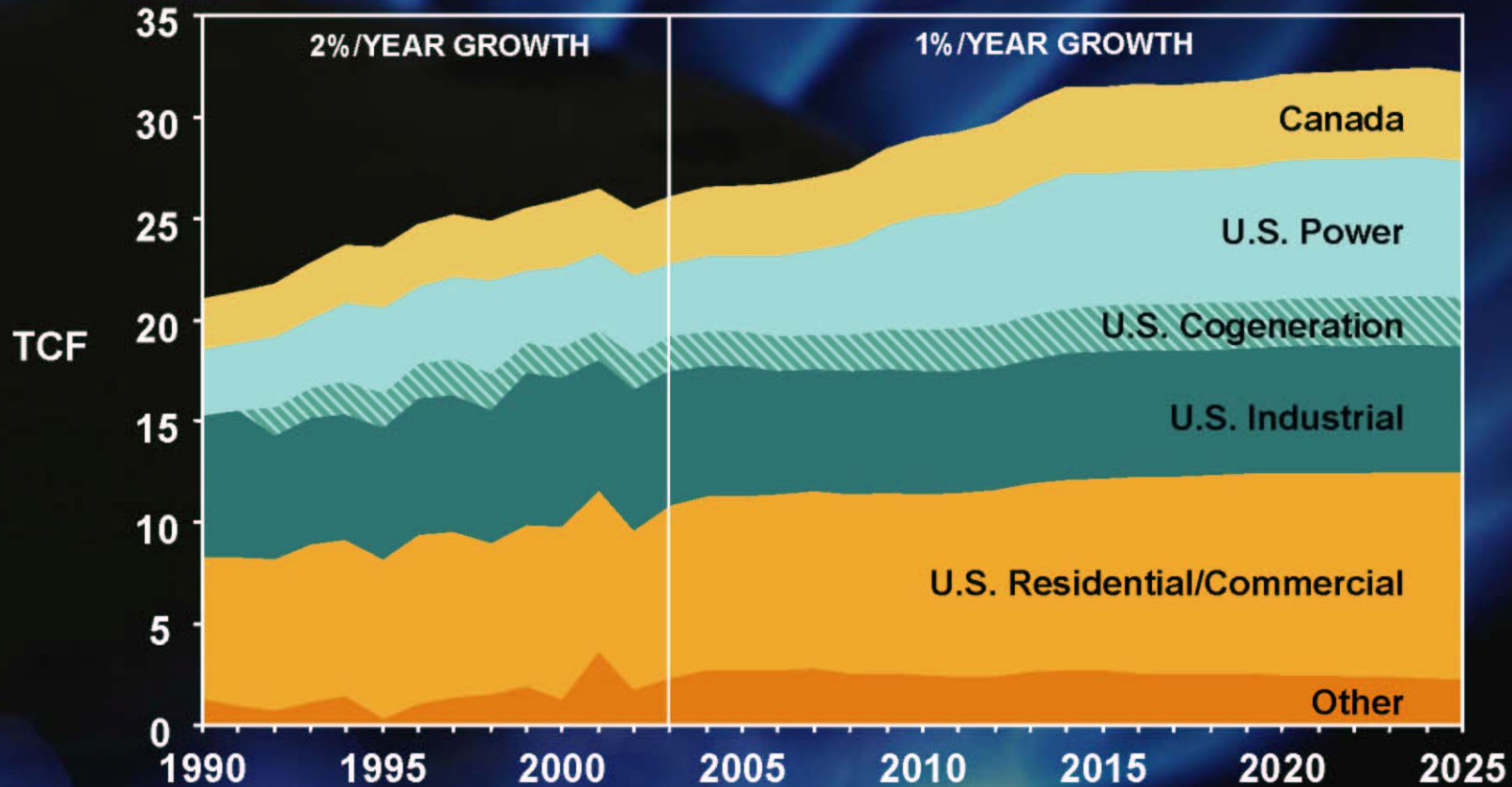
NPC

Natural Gas is Important to Our Economy

Average Annual U.S. Energy Use
97 TCF (equivalent)

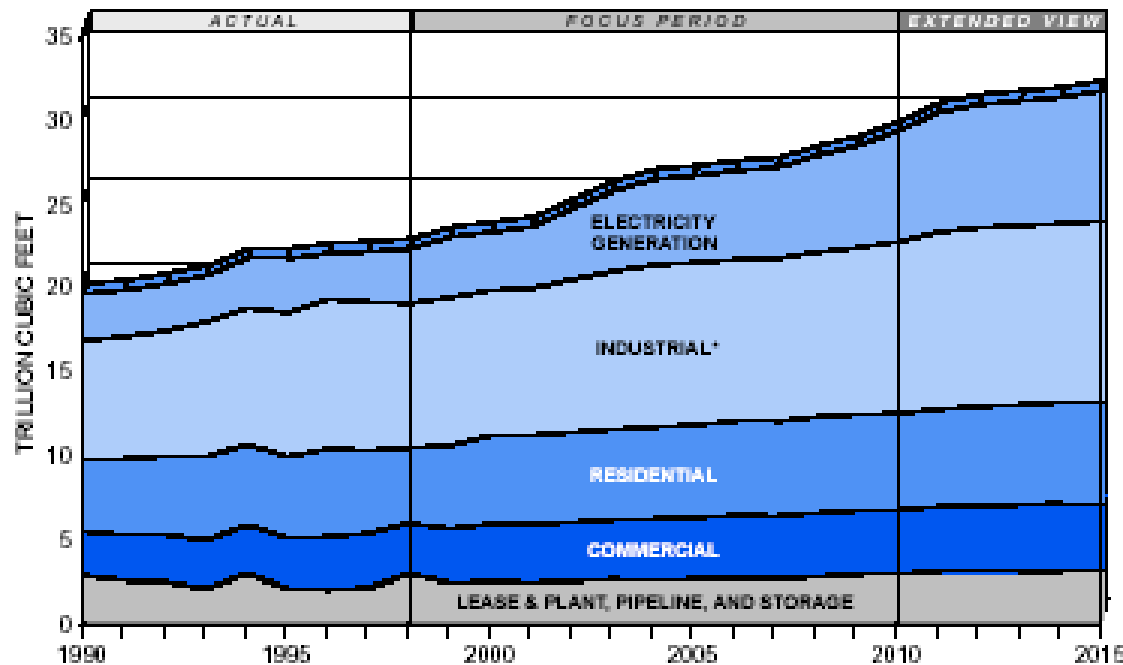


Demand is Diverse and Power Generation Will Drive Growth



What A Difference 3 Years Made

Figure 3a. U.S. Natural Gas Demand by Sector

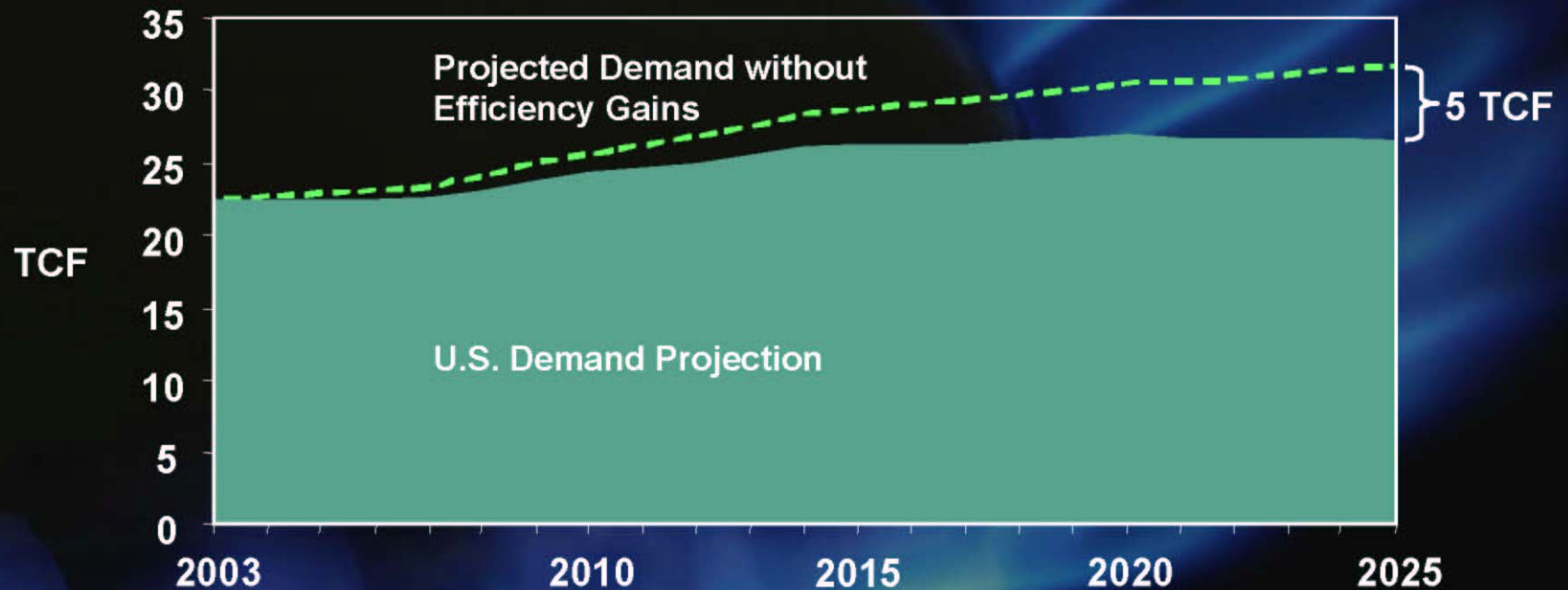


**1999 NPC Forecast
Underestimated Power
Generation Needs:
“145,000 MW by 2015”
(1999)
220,000 MW by 2004
(Actual)**

Source: National Petroleum Council, Summary Report, 1999, Volume 1.

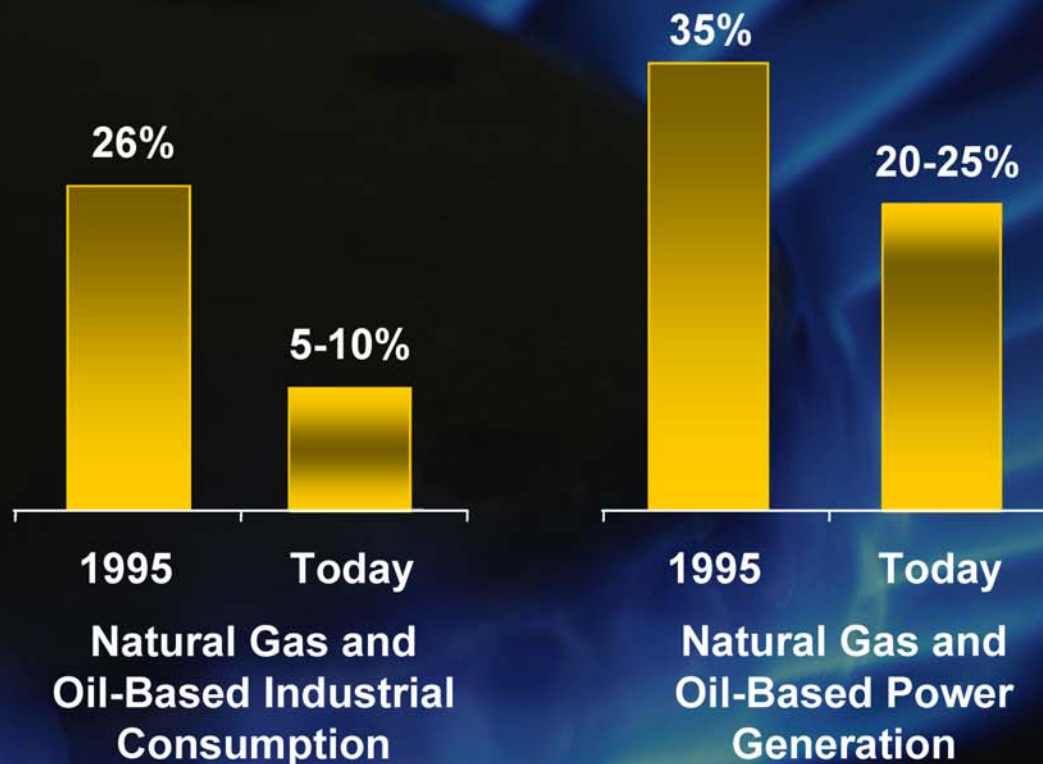
Continued Energy Efficiency is Important

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



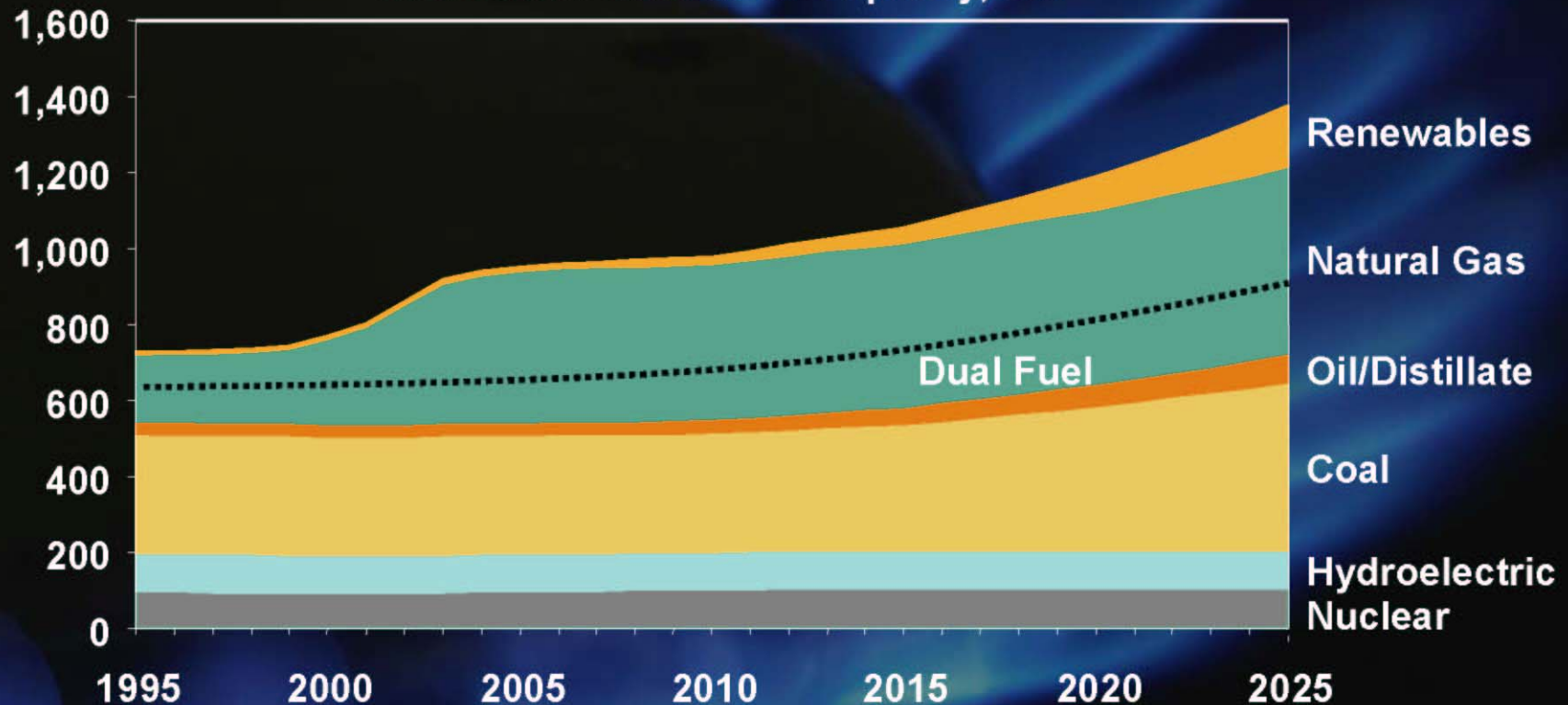
As Demand Has Grown, Flexibility Has Eroded

Fuel Substitution Capability

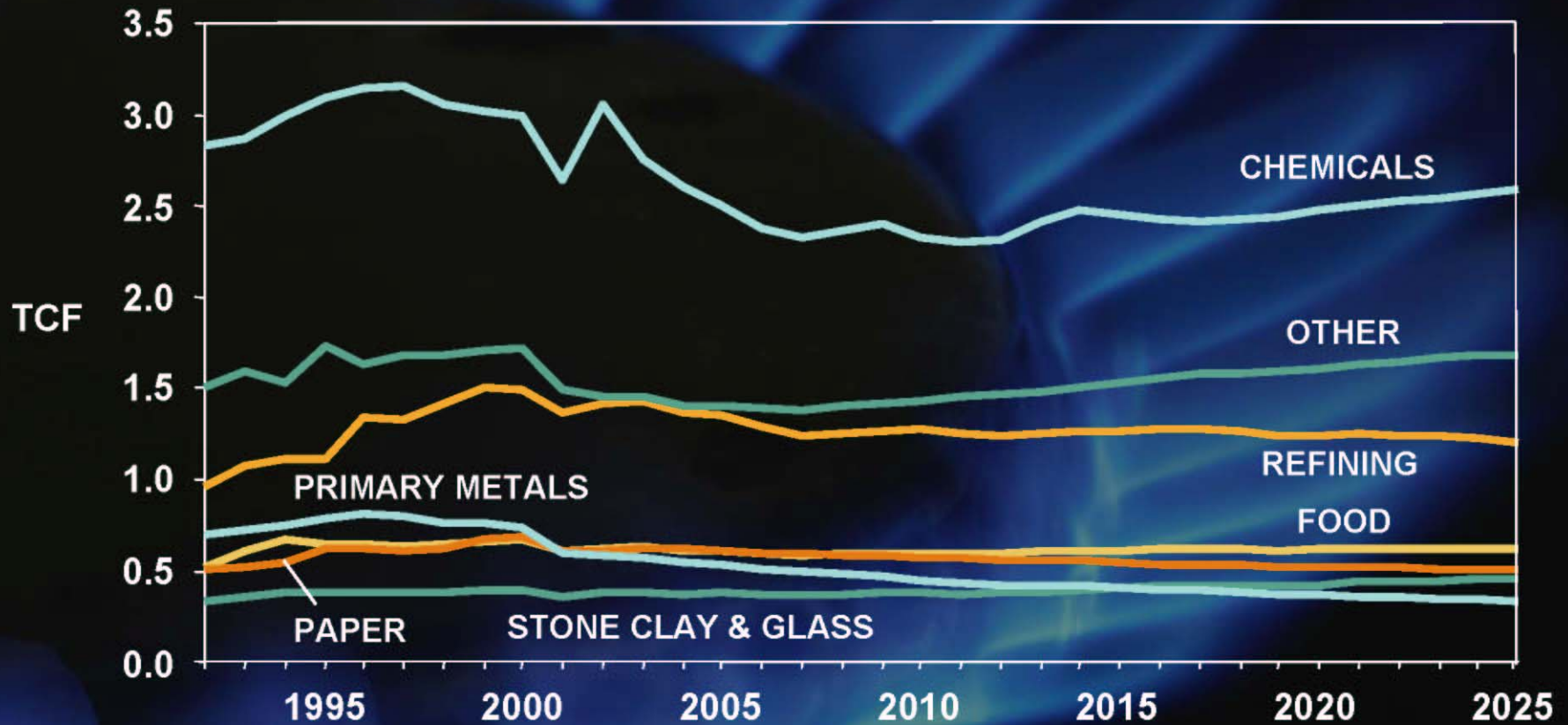


The Gas-Fired Generation Buildup Has Reshaped Demand

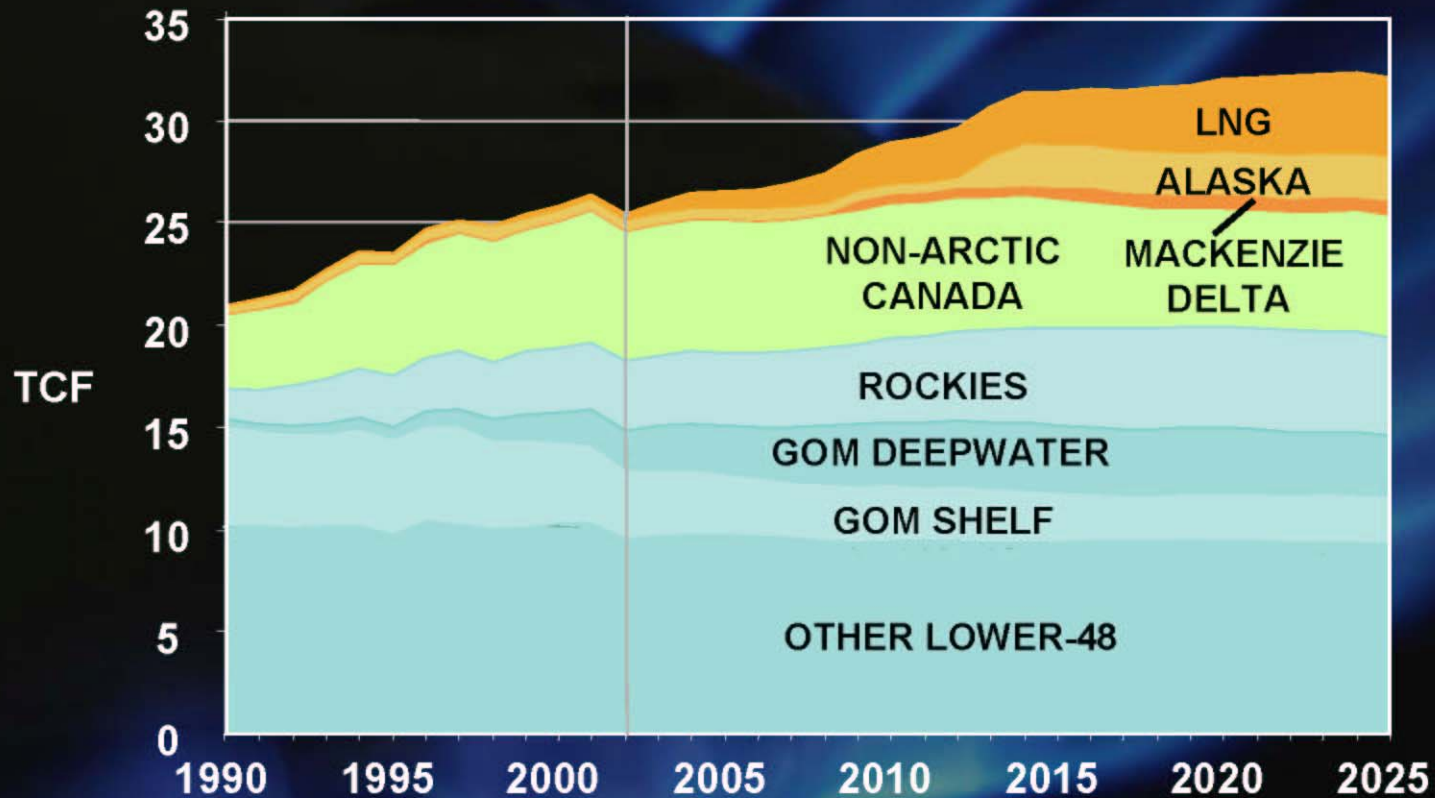
U.S. Power Generation Capacity, GW



Higher Prices Impact Industrial Growth

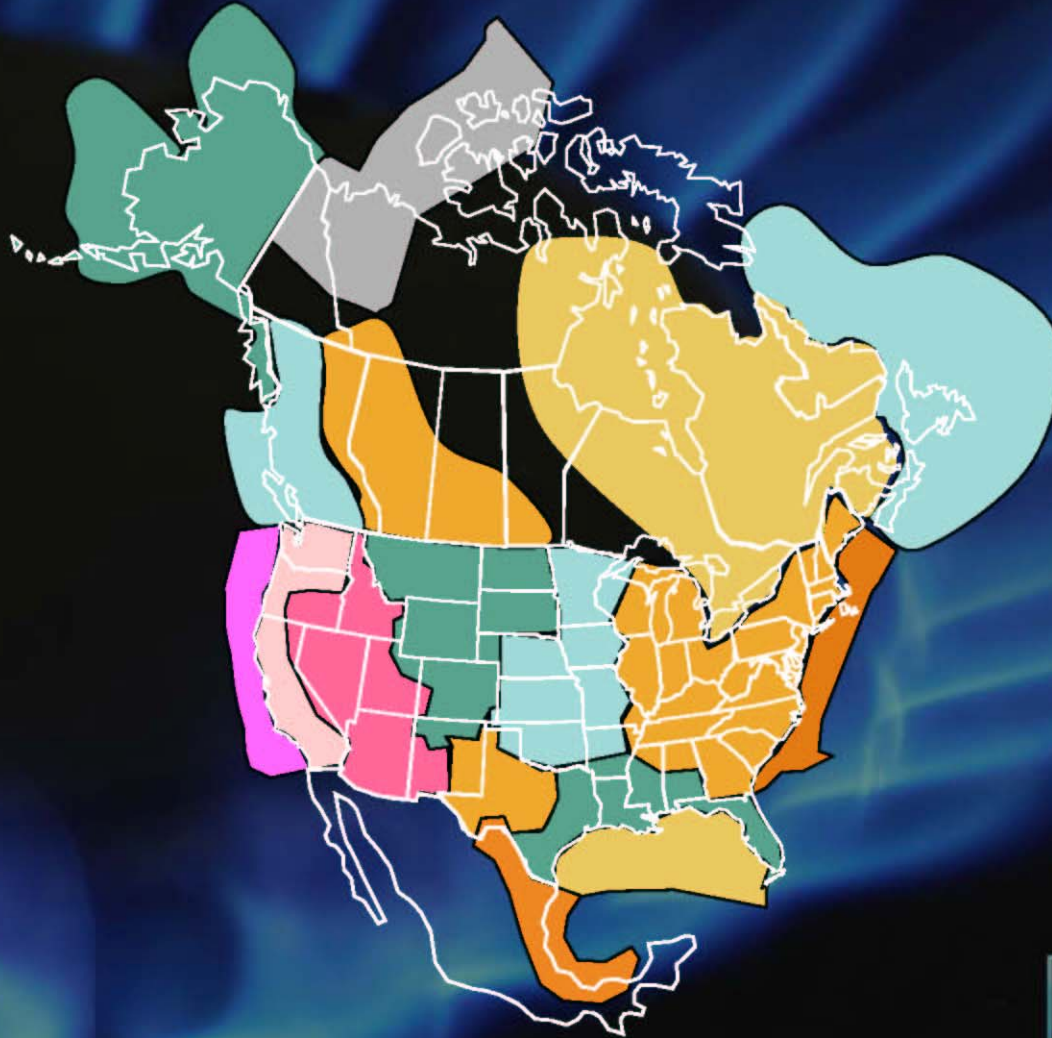


Future Supplies Come from Traditional and New Sources



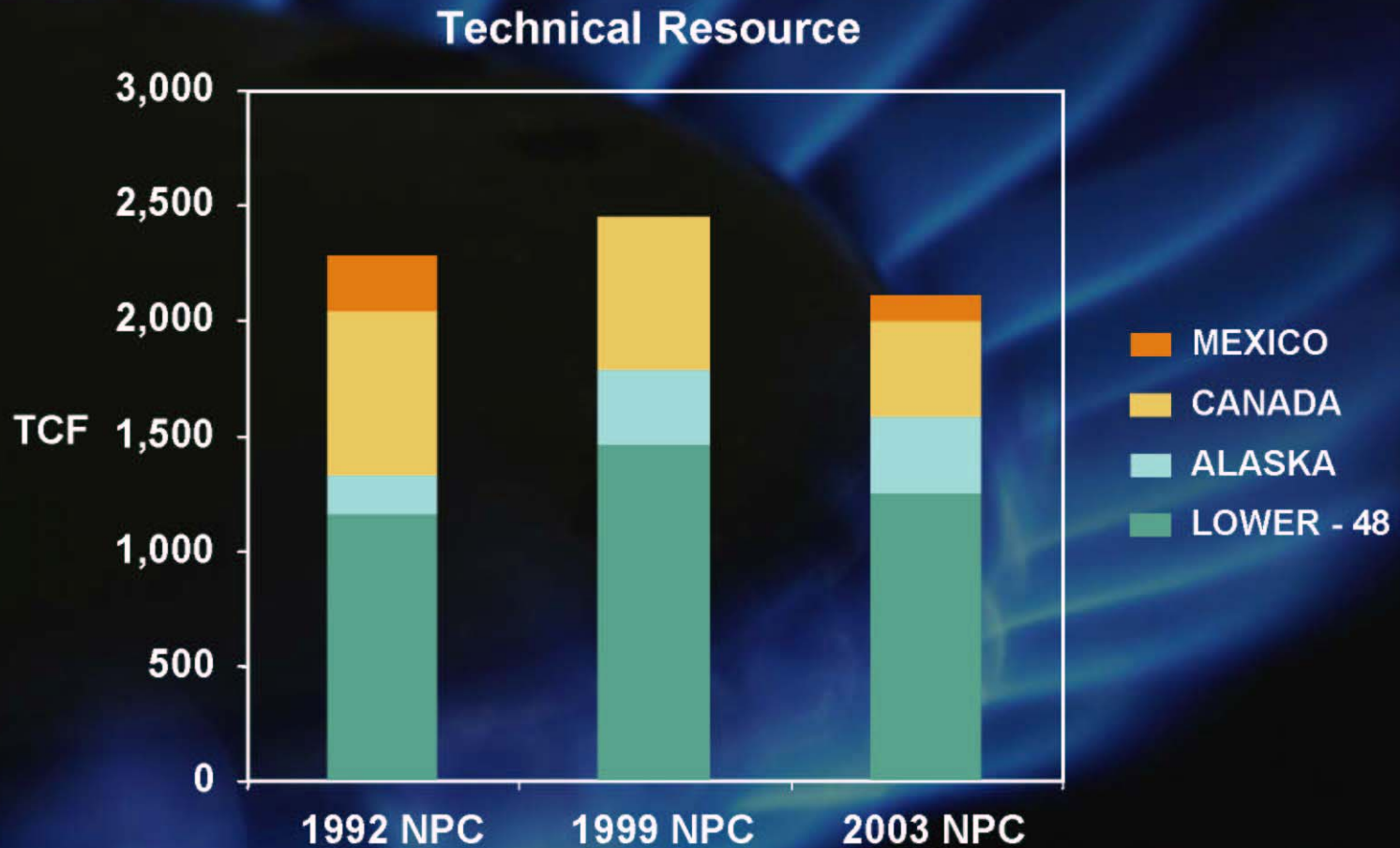
Finding: Traditional North American producing areas will provide 75% of long-term U.S. gas needs, but will be unable to meet projected demand.

North American Resource Base is Large and Diverse



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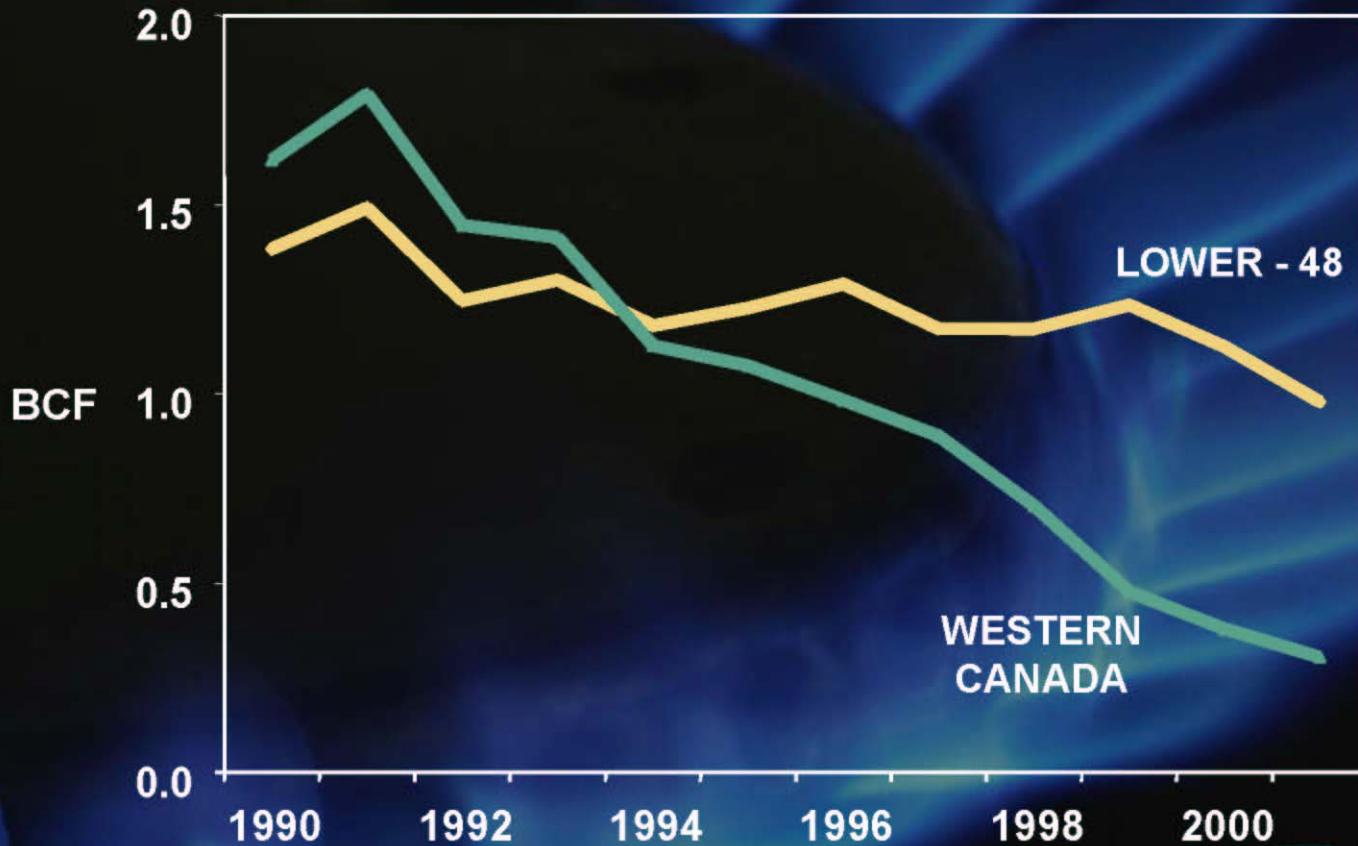
North American Resource Base Was Comprehensively Reviewed



NPC

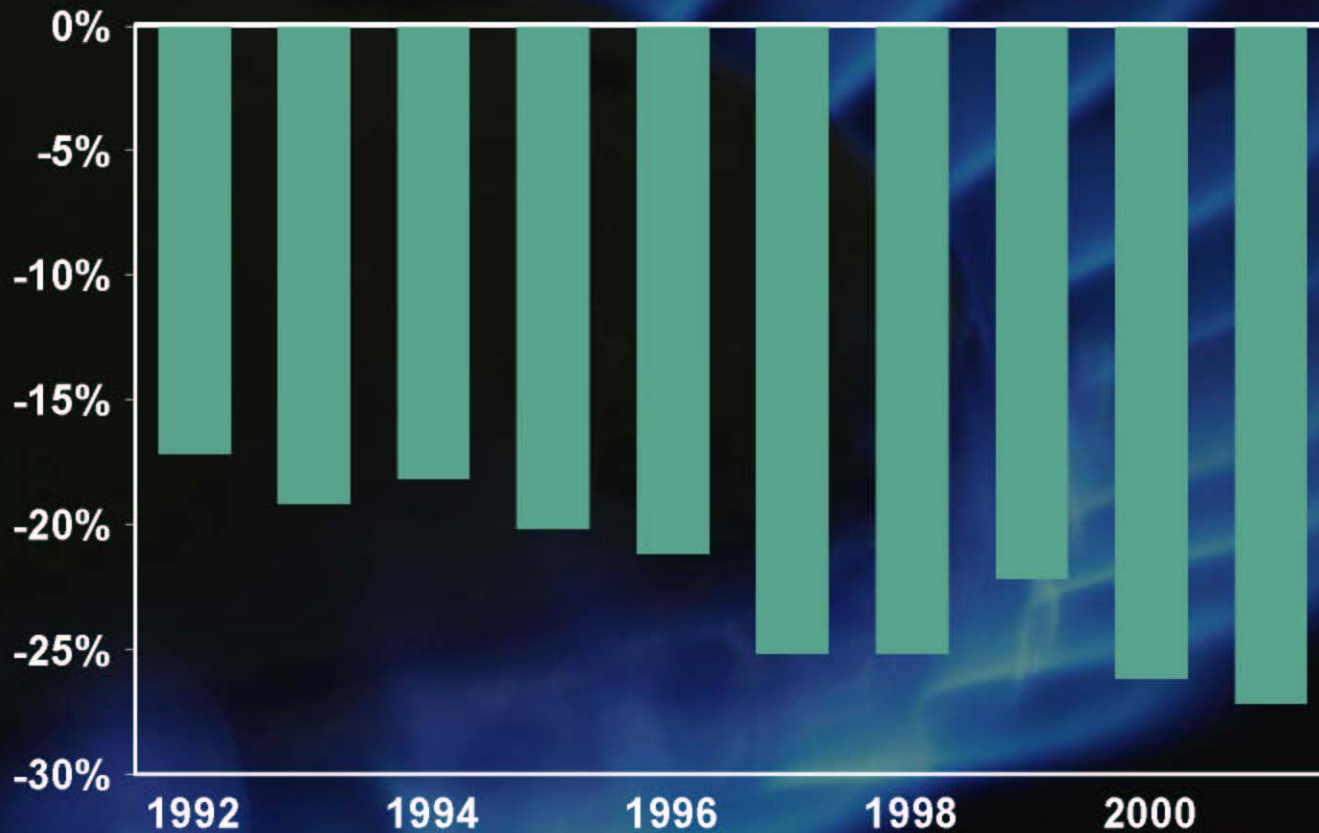
Production History Confirms a Maturing Resource Base

Recovery per Conventional Gas Connection

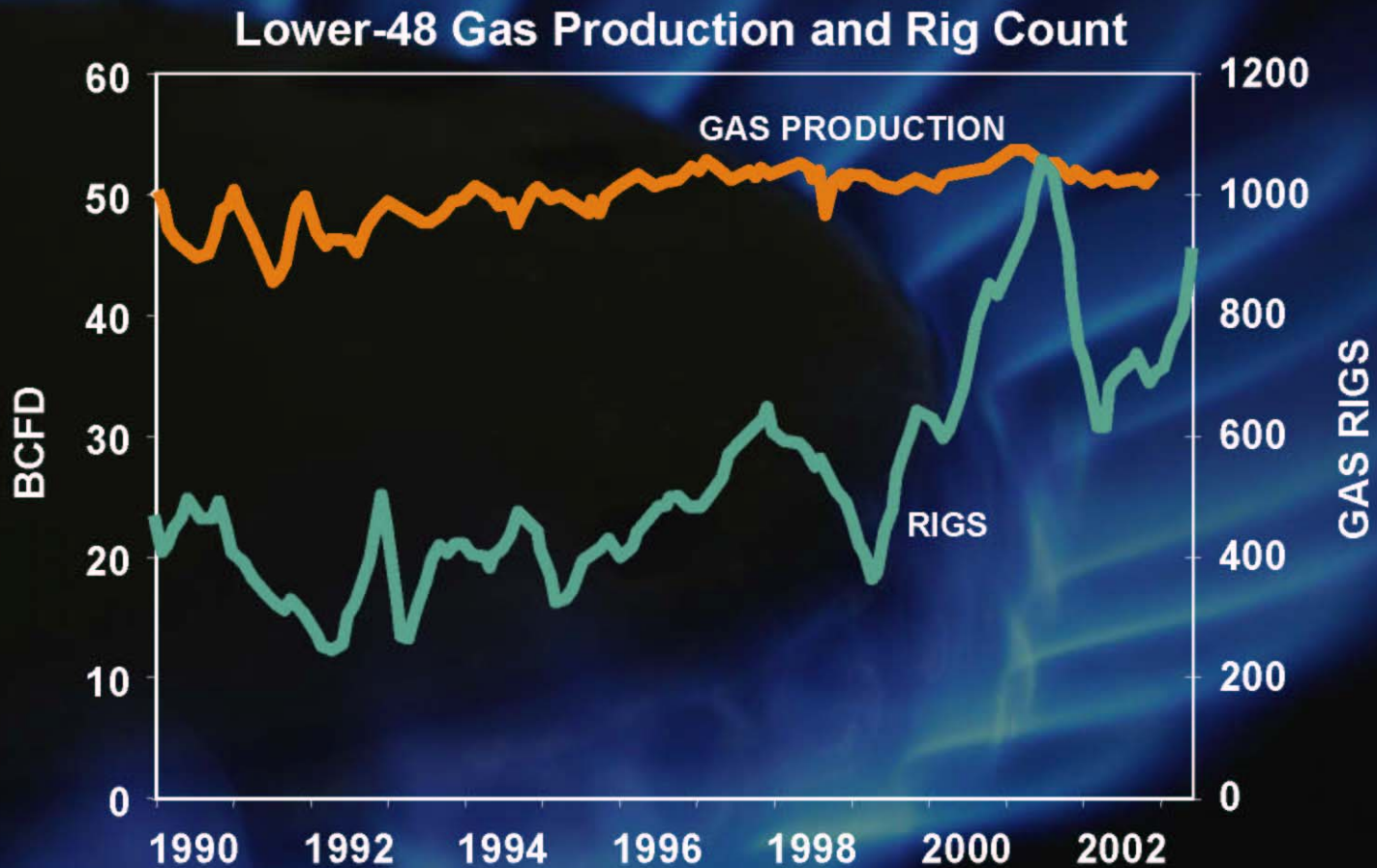


The Rate of Production Decline is Increasing

Lower - 48 Decline Rate From Existing Wells

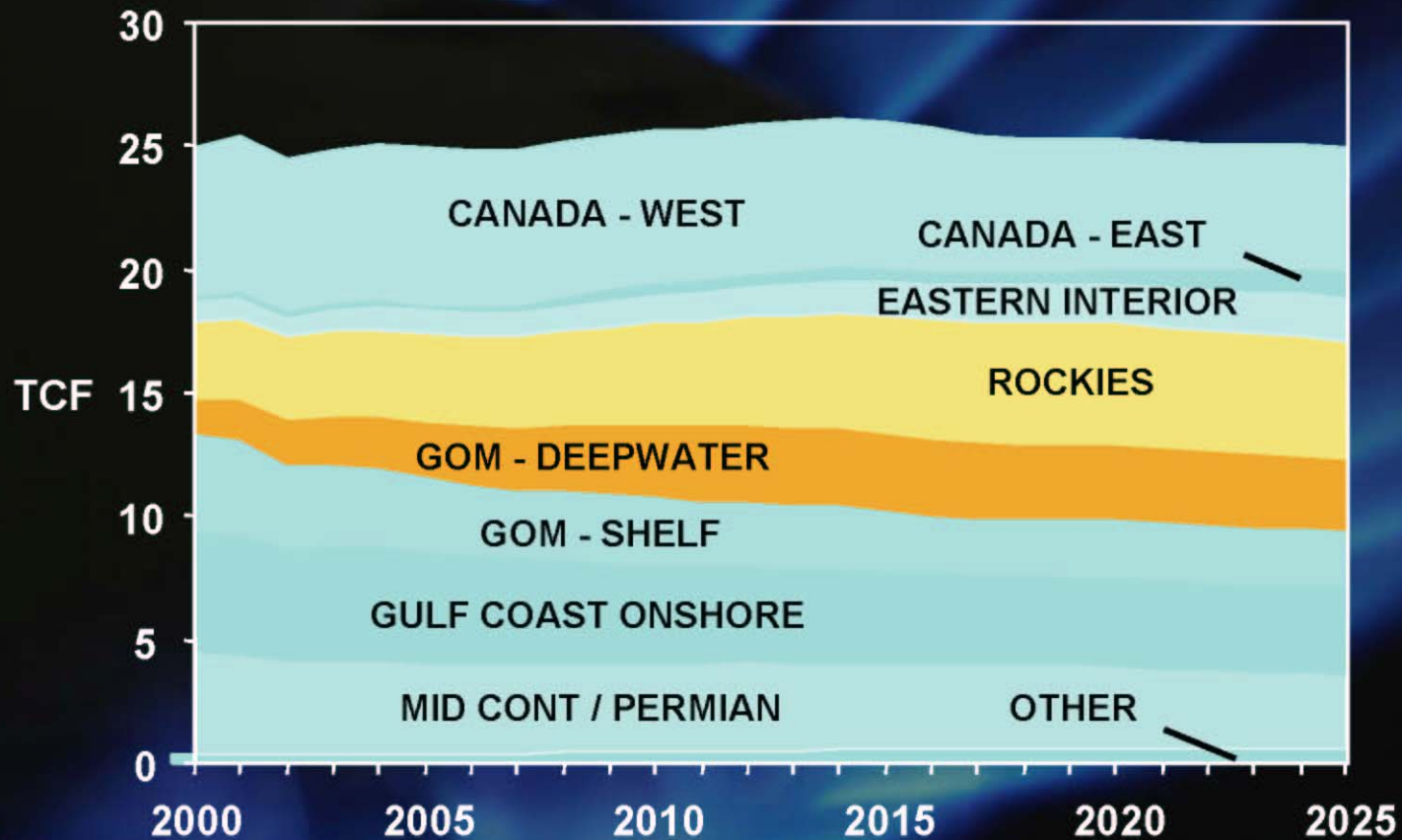


Production Response from Increased Drilling Has Been Modest



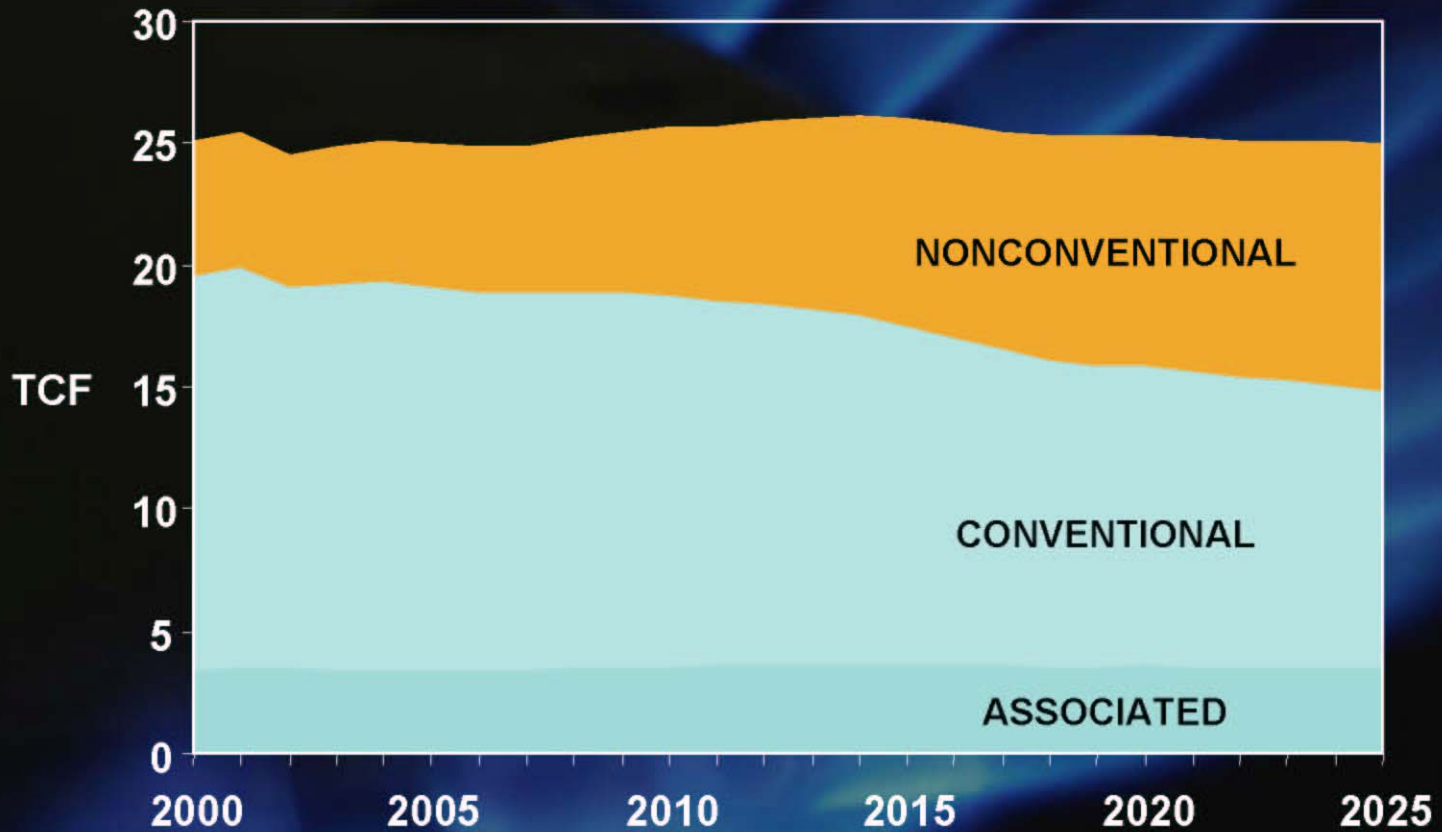
Rockies and Deepwater Gulf of Mexico Production Must Grow

Non-Arctic U.S. and Canadian Production Outlook

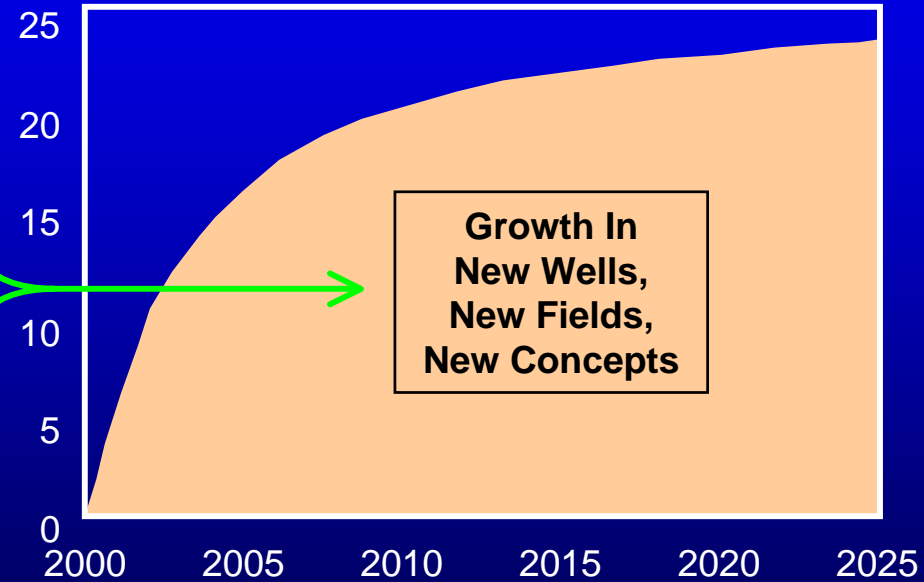
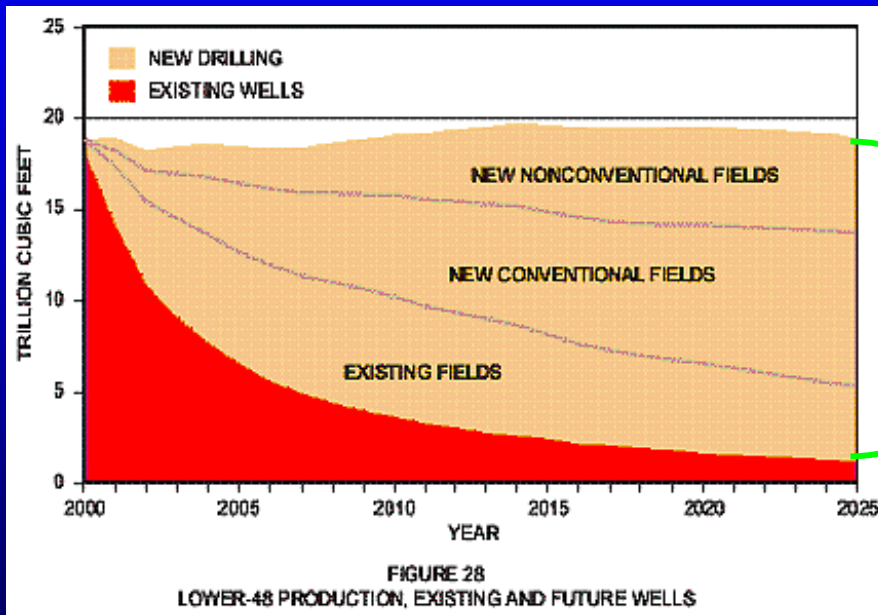


Nonconventional Production Must Grow

Non-Arctic U.S. and Canadian Production Outlook



Keeping Supply Flat Takes “Many Moving Parts”

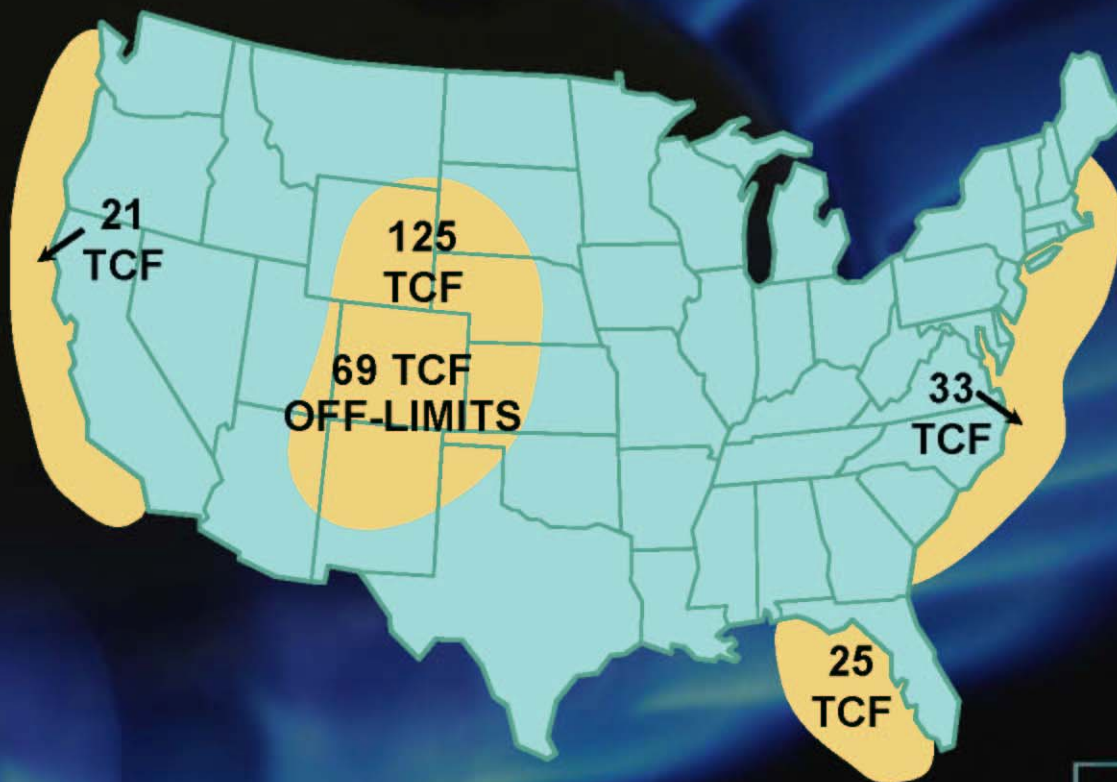


Source: National Petroleum Council Report, *Balancing Natural Gas Policy – Fueling the Demands of a Growing Economy*, September 25, 2003.

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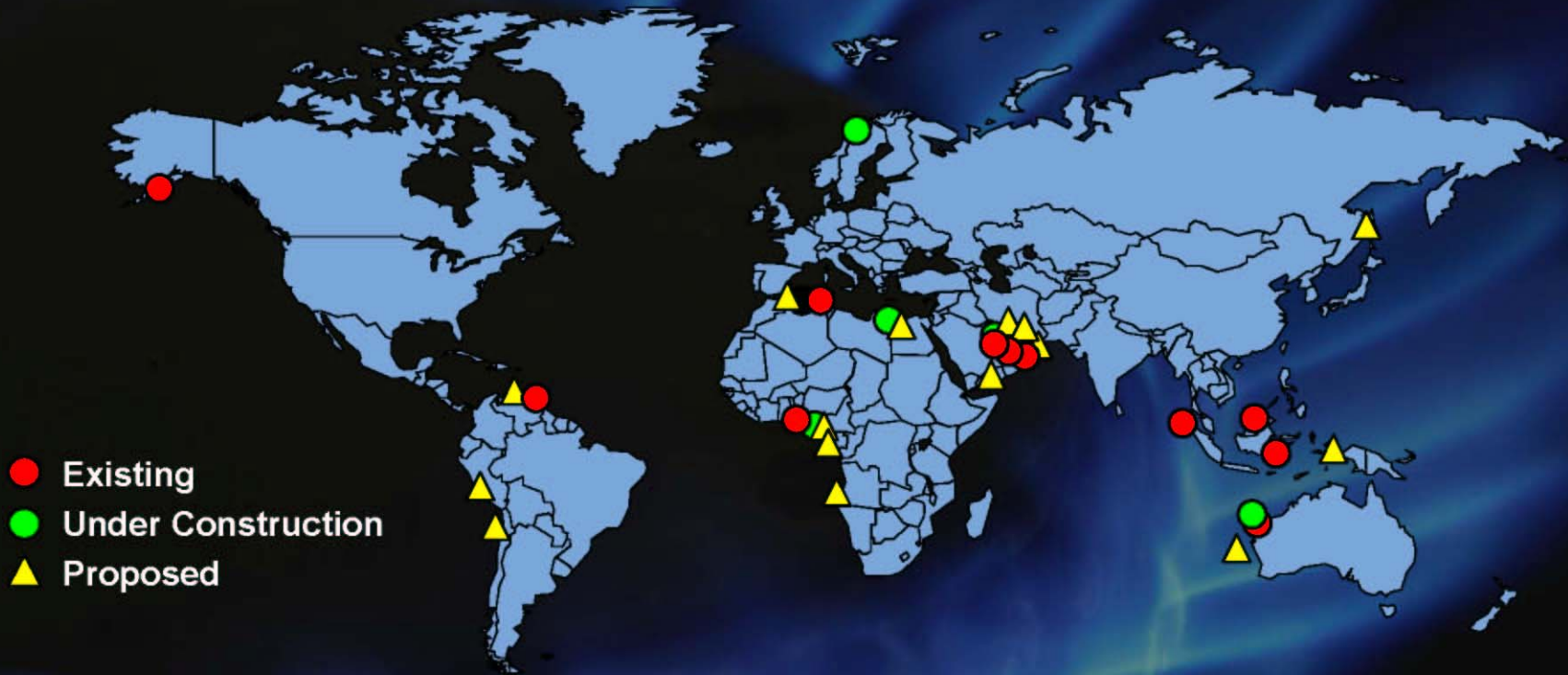
Indigenous Resources Are Not Fully Utilized

Technical Resource Impacted by Access Restrictions



Worldwide Natural Gas Resources Are Vast

Global LNG Supply Facilities



- Existing
- Under Construction
- ▲ Proposed

Annual Global Consumption
< 2% of World Proved Reserves

The Key Issues Facing Gas

(Or What Does The NPC Study Mean?)

- Demand, as envisioned, cannot grow.
- Keeping U.S. supply flat takes many successes.
- High price has little impact on helping supply.
- Drilling activity has to soar.
- Urgent need to understand resource bases not now in use (North American OCS).
- Global gas is hazier than meets the eye.

Final Observations

- Three years changed the outlook by 180°.
- Depletion is easy to ignore.
- Peaking of energy supply is easy to miss (until after the fact).
- No form of energy demand can ever exceed its energy supply.

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