What is Happening with Natural Gas?
Recent Studies by
The National Petroleum Council and
US EIA Annual Energy Outlook 2004-2025

Cheryl Harrington
NARUC ERE Committee
March 9, 2003

The Regulatory Assistance Project
50 State Street, Suite 3
Montpelier, Vermont USA 05602
Tel: 802.223.8199
Fax: 802.223.8172

177 Water St.
Gardiner, Maine USA 04345
Tel: 207.582.1135
Fax: 207.582.1176

Website:
http://www.raponline.org
NPC Study

- National Petroleum Council advisory group to Secretary of DOE
- Study posted on web http://npc.org/
- Looked at natural gas supply, demand and infrastructure in North America through 2025
There has been a fundamental shift in the natural gas supply/demand balance that has resulted in higher prices and volatility in recent years.

This trend is expected to continue, but can be moderated through policy actions.
Higher Prices Reflect a Fundamental Shift in Supply & Demand

- U.S. & Canada Total Demand
- Canada Supply
- U.S. Supply
- Gas Price, $/MMBtu
Key Demand Sectors are Consuming More Gas
The Rate of Production Decline is Increasing

Lower - 48 Decline Rate From Existing Wells

- 30%  -25%  -20%  -15%  -10%  -5%  0% 1992 1994 1996 1998 2000
FINDINGS – DEMAND

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

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

• 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.
Continued Energy Efficiency is Important

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

- Projected Demand without Efficiency Gains
- U.S. Demand Projection

[Graph showing projected demand with and without efficiency gains from 2003 to 2025, with a total of 5 TCF indicated.]
FINDINGS - SUPPLY

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

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

• New, large-scale resources such as LNG and Arctic gas are available and could meet 20-25% of demand, but are higher-cost, have long lead times, and face major barriers to development.
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.
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
Substantially revised projected sources of new electricity generation 2004-2025.

http://www.eia.doe.gov/
Increased Use of Coal for Electricity Generation

- **Coal**
  - AEO 03 74 GW new coal by 2024
  - AEO 04 112 GW new coal by 2025
  - 51% Increase

- **Gas**
  - AEO 03 292 GW new gas
  - AEO 04 219 GW new gas
  - 25% Decrease
Figure 4. Electricity generation by fuel, 1970-2025 (billion kilowatthours)
Coal’s resurgence

Across the US, 94 new coal-burning power plants have been proposed, enough to power 62 million homes. Following are the number of proposed plants already slated for a particular state and the total capacity they represent.

Source: National Energy Technology Laboratory
Opportunities for new EE & Renewable Resource Investment

- Many utility regulators will pause at the thought of a large number of new coal fired power plants.

- There is an excellent opportunity to refocus regulators and other policy makers on energy efficiency and renewable resource investments.