



Natural Gas

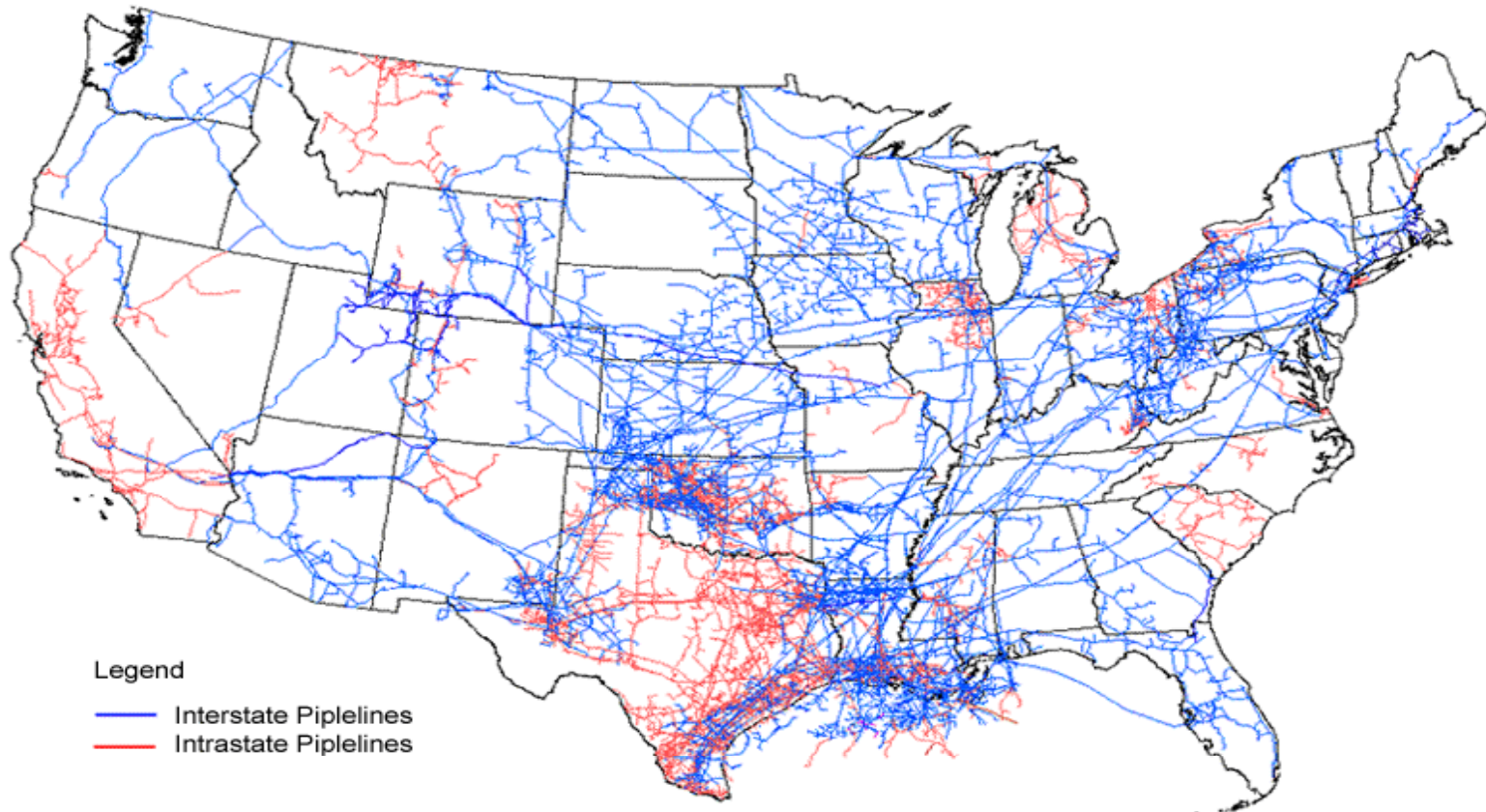
Current Capabilities and Future Needs

Virginia Beach Alternative Energy Task Force
June 3, 2009



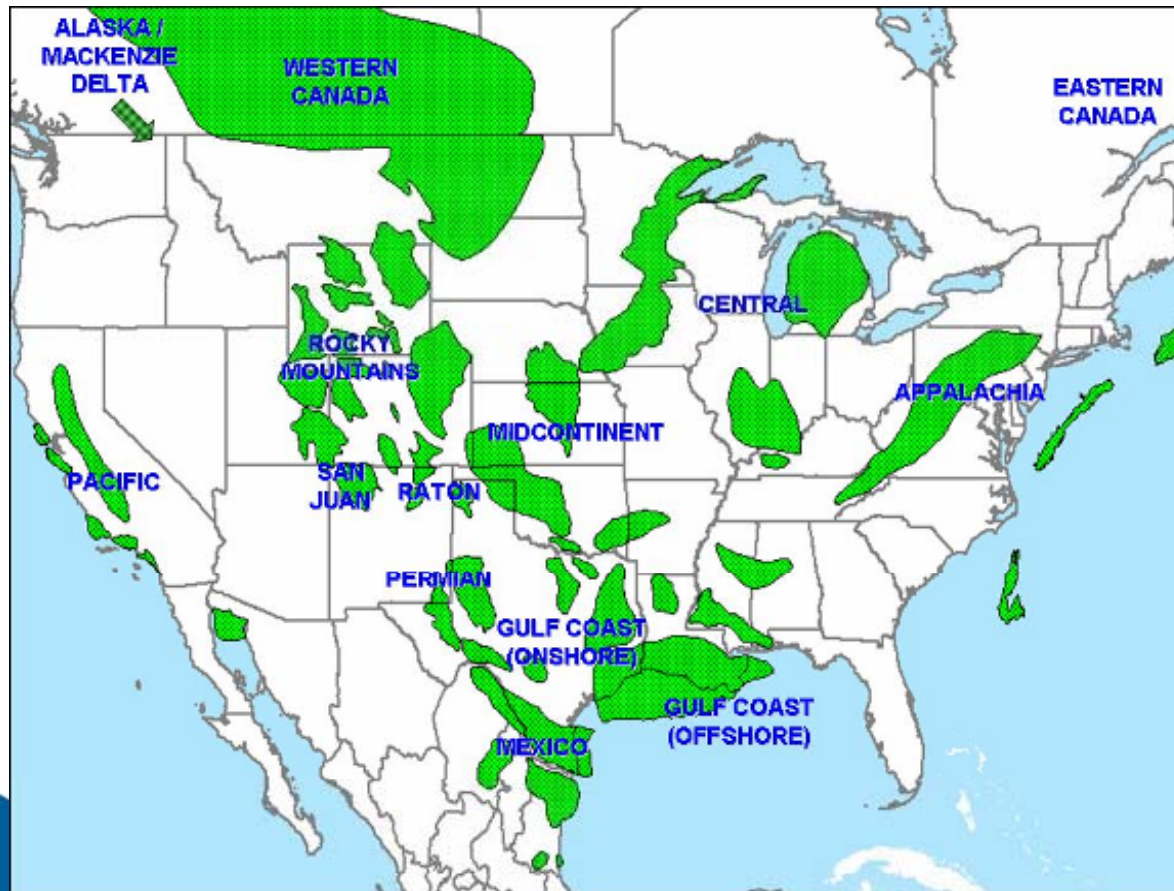
Natural Gas Pipeline Systems

The national natural gas mainline transmission grid is made up of approximately 217,000 miles of interstate pipelines and 89,000 miles of intrastate pipeline.



Source: Energy Information Administration, Natural Gas Transportation Information System, Natural Gas Pipeline Maps Database (December 2008)

Natural Gas Supply Basins



Natural Gas Fuels Our Economy

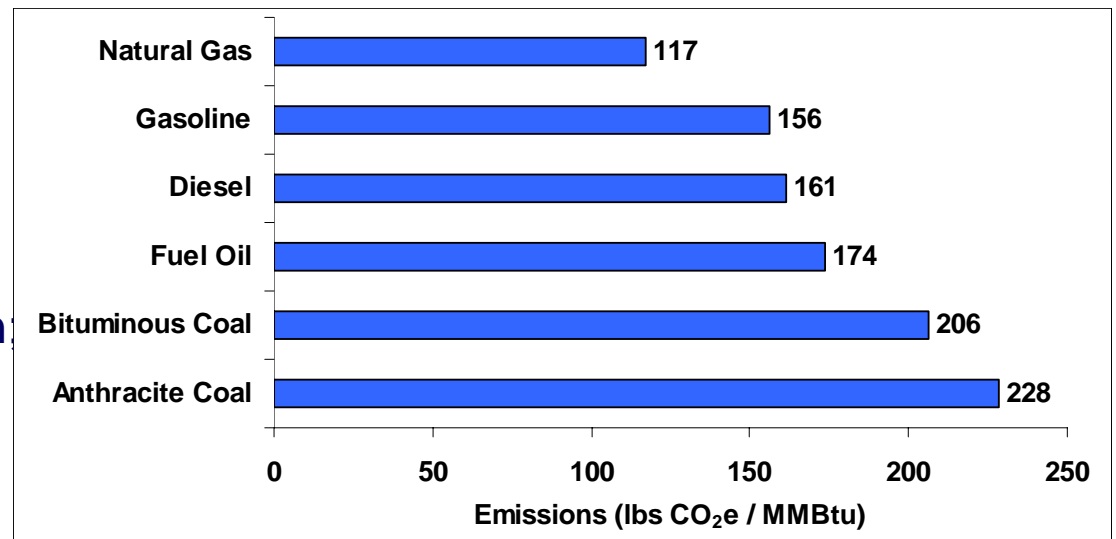
- Natural gas serves 27% of the nation's energy demand
- Lower cost of energy (NYMEX, May 5, 2009)
 - Natural Gas: \$4.52/MMBtu
 - Fuel Oil: \$12.15/MMBtu
- Large variety of applications – residential, commercial, industrial, & transportation



Natural Gas is Part of the Climate Change Solution

Natural gas offers an immediate answer to address climate change

- Existing, commercially viable technology
 - Natural gas power generation; biogas technologies; natural gas vehicles
- Clean burning fossil fuel
 - 43% less CO₂ than coal; 28% less CO₂ than fuel oil; 11% less CO₂ than propane
 - Zero SO₂ and particulate matter, significantly lower NO_x



Natural Gas Also Provides the “Bridge” to Renewables

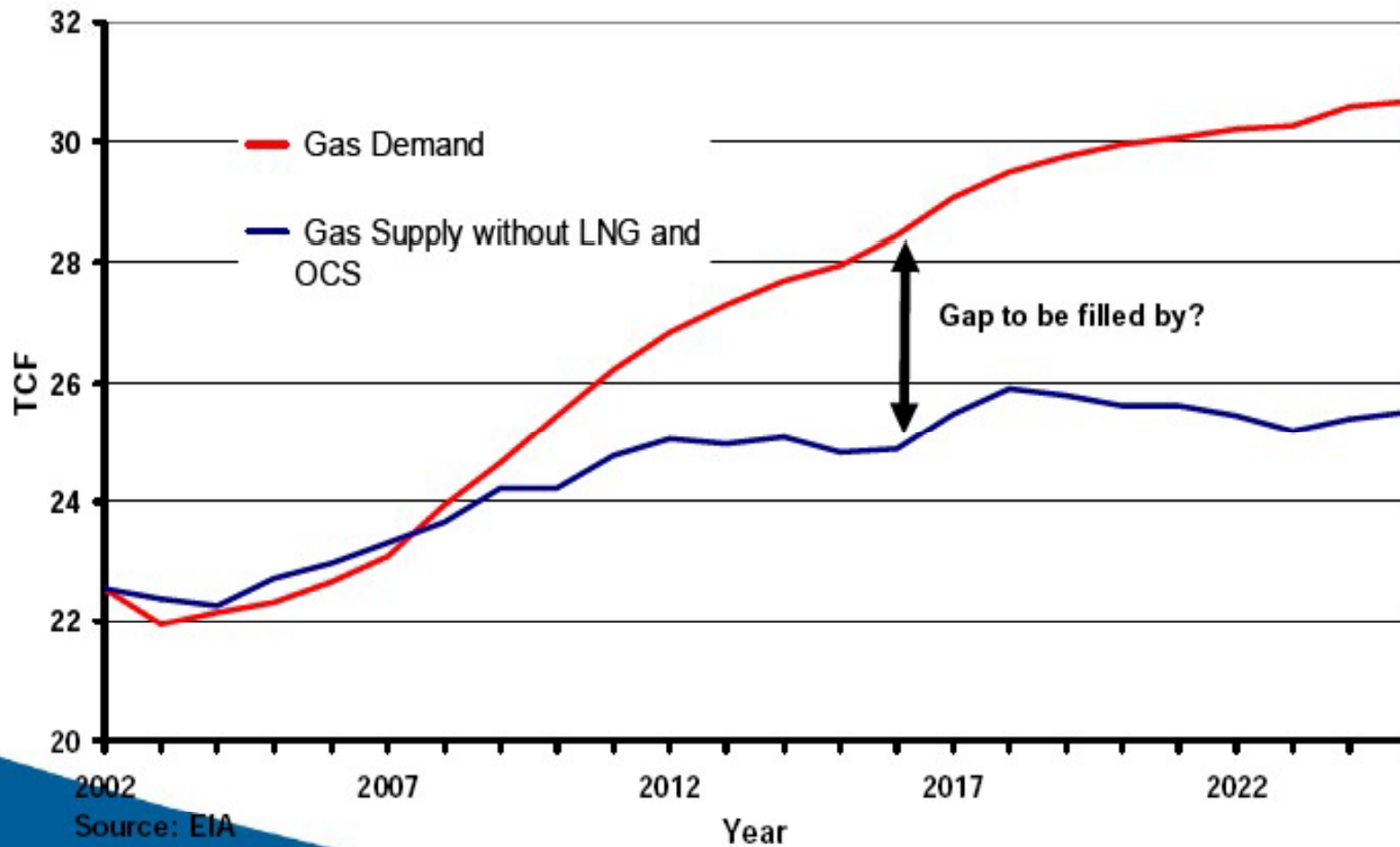
Natural Gas technologies are clean, efficient, and commercially viable today

Natural Gas provides clean, reliable power to support the expanded use of resource dependent renewable technologies in the national generation portfolio



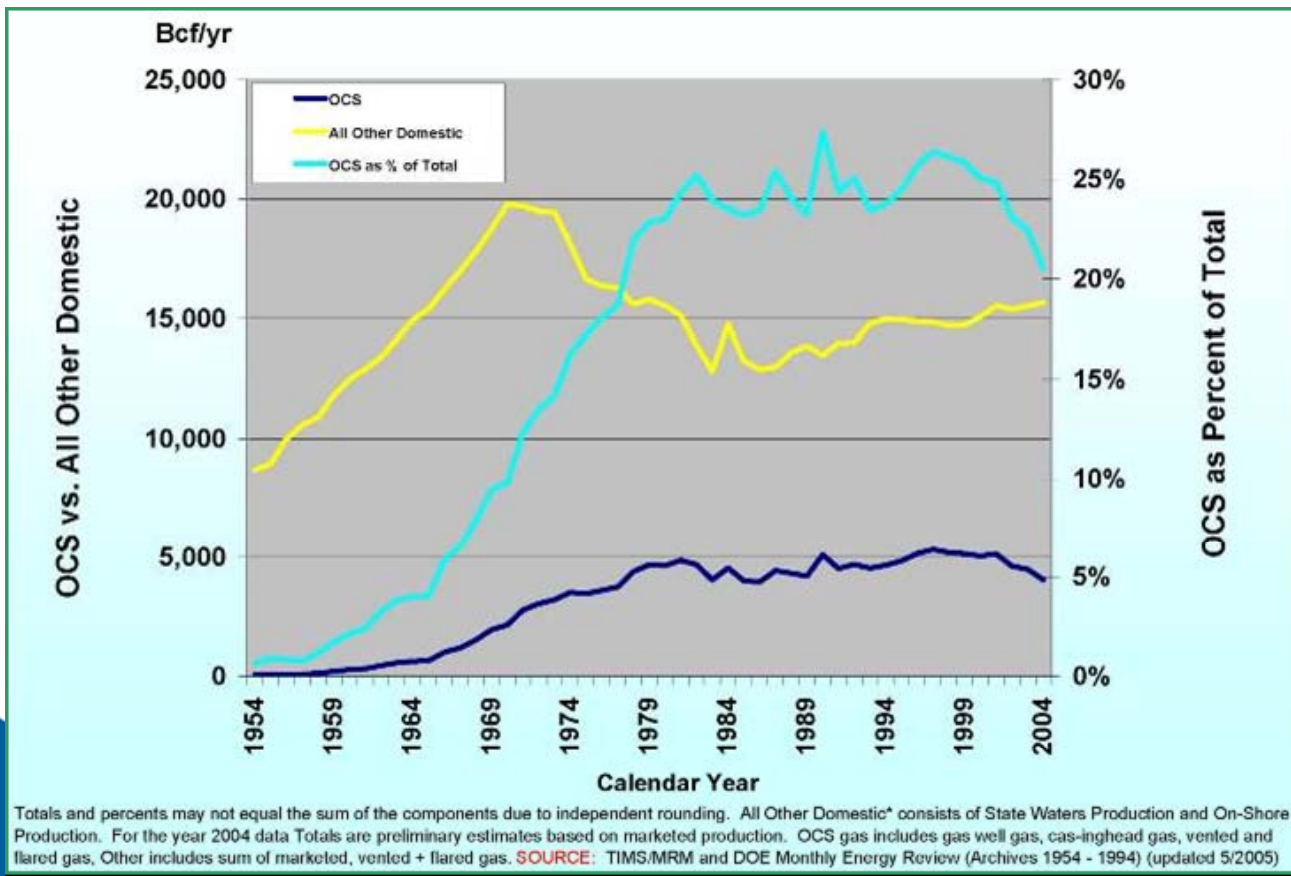
 Virginia Natural Gas

Supply – Demand Forecast

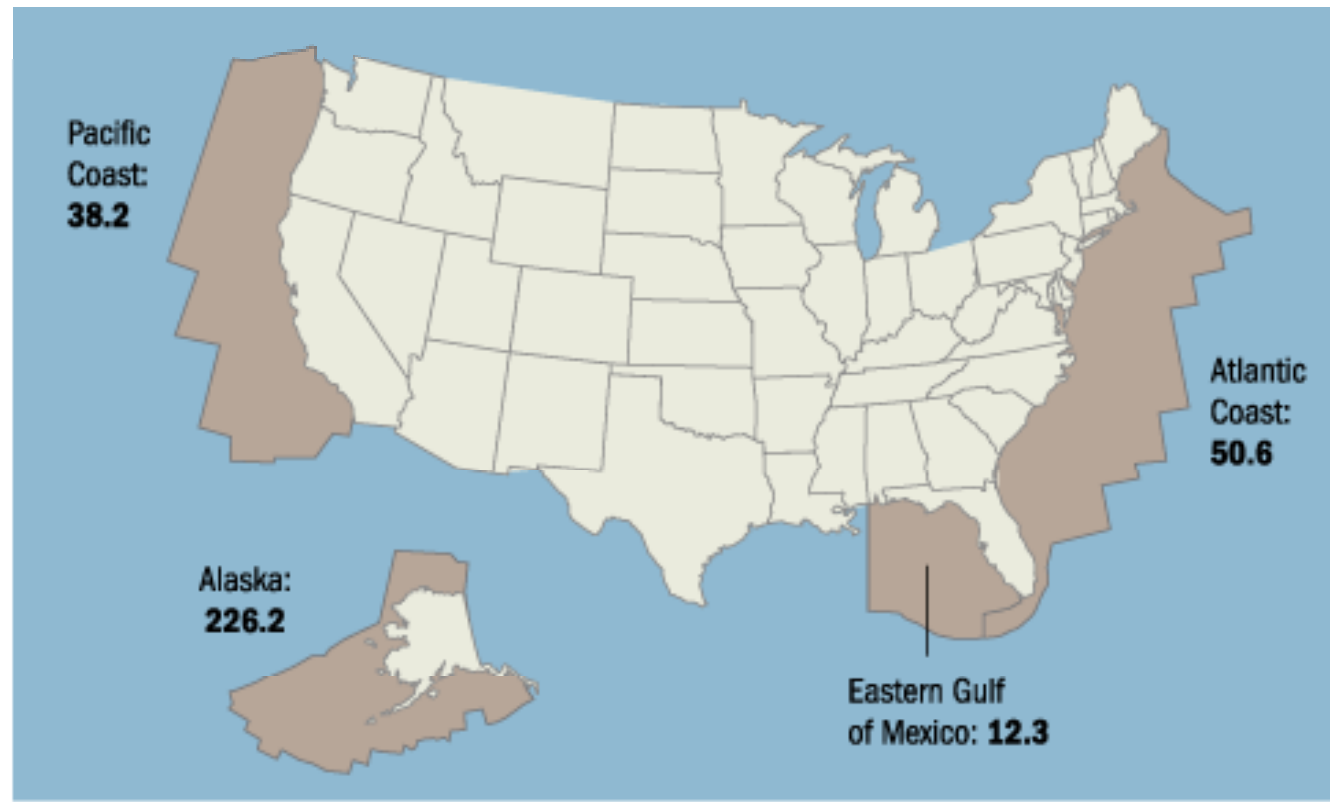


Source: EIA

Source of Supply



Looking Offshore Untapped Potential



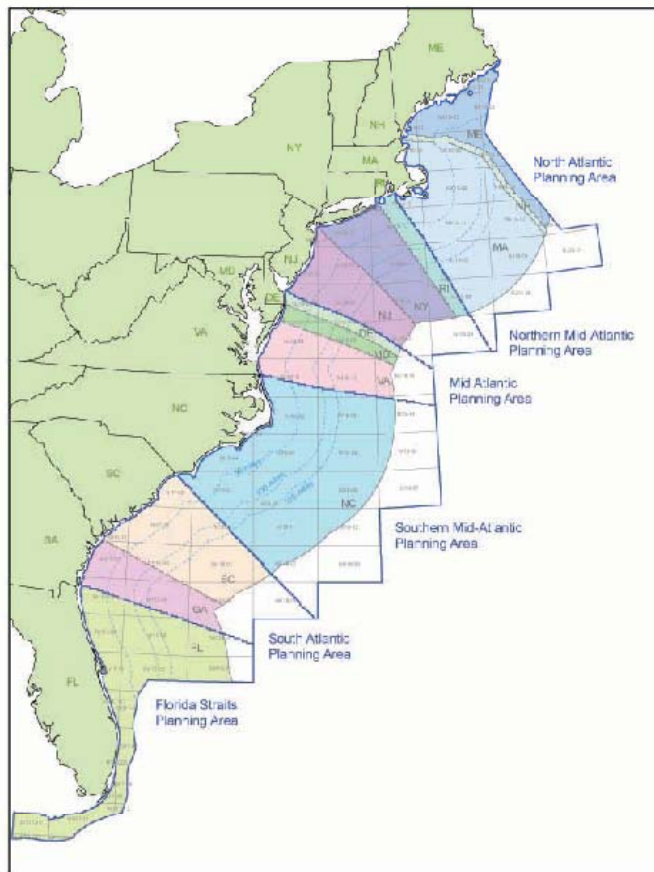
Recoverable natural gas in TCF from areas generally covered by federal moratoriums on offshore drilling



This graphic appeared in The Wall Street Journal, August 22, 2005

Atlantic OCS estimates

Atlantic OCS Region State Adjacent Zones and OCS Planning Areas
September 2005



- On the Atlantic coast, MMS estimates 50.6 trillion cubic feet of natural gas in the Atlantic OCS. Divided into 26 planning areas.
- Totals approximately 15.13 trillion cubic feet of gas in the Mid-Atlantic area.
- Va makes up 11% of the Mid-Atlantic area.

Potential for VA-Offshore Drilling

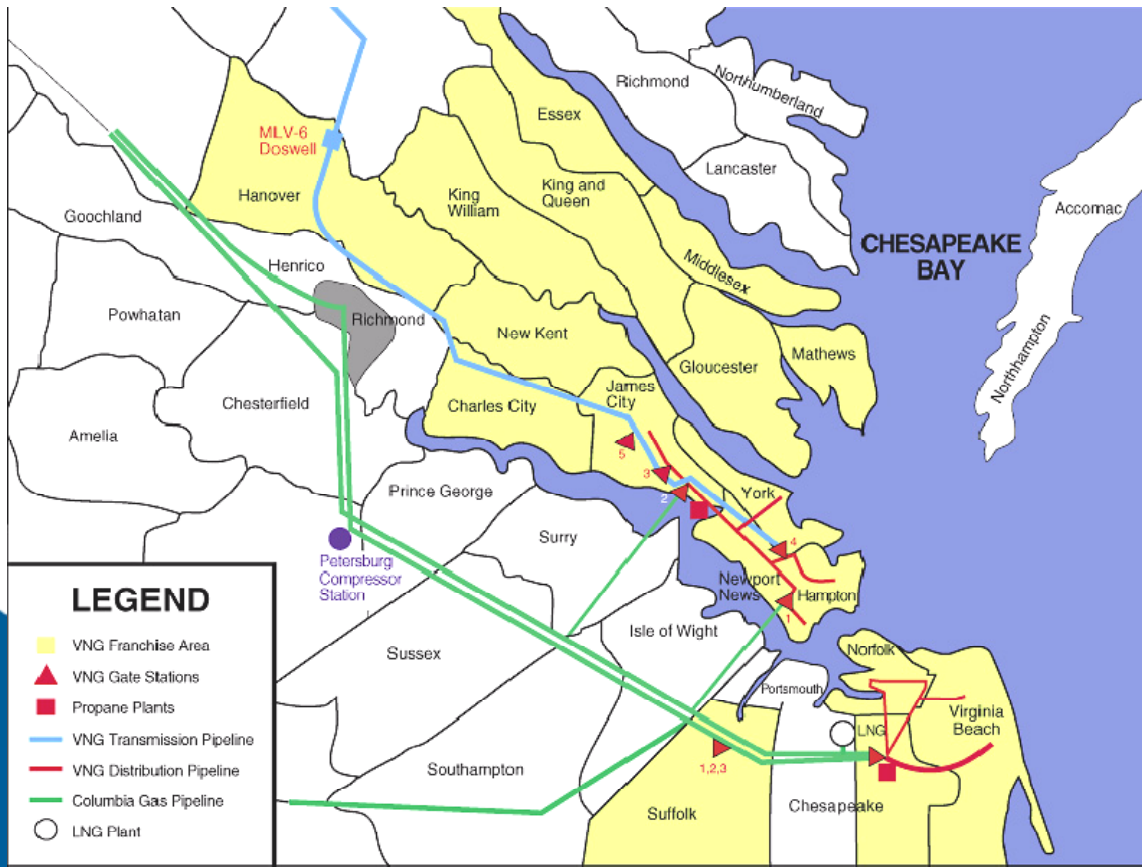
- Reductions in natural gas prices
- Enhanced supply diversity
- Decreased price volatility
- Jobs
- Increased payroll and payroll taxes
- New investment
- Royalties

Hampton Roads, Virginia



- Virginia Natural Gas serves the Cities of Virginia Beach, Norfolk, parts of Chesapeake and Suffolk, and all of the Cities and Counties along the 64 corridor ending in Hanover
- Distribution system has been physically separated into two divisions by Hampton Roads Harbor.
- Reliability - Single pipeline supply into South Hampton Roads.
- Cost of Gas Commodity – Limited flexibility in moving the most cost effective gas supplies throughout the system.
- Economic Development – Limited gas capacity insufficient to keep up with residential and commercial growth throughout the region.

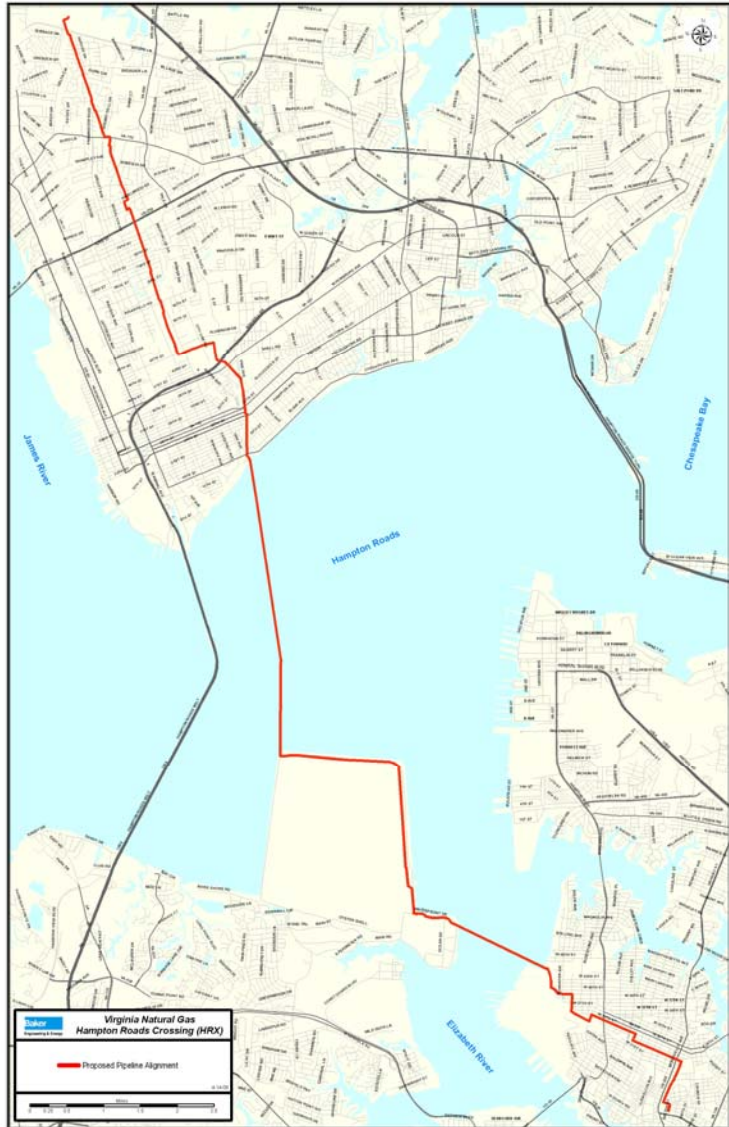
Infrastructure in VA



VNG SUPPLY SIDE MANAGEMENT INITIATIVES

- JUP
- Propane Facility
- HRX

HRX Crossing Pipeline Project



- **Distribution system connection creates an integrated gas supply for region**
- **Reliability – minimize risk due to gas interruptions or mechanical problems on a single supply pipeline.**
- **Cost of Gas Commodity – flexibility in gas delivery will optimize gas cost for all consumers in region.**
- **Additional increment of gas supply from Dominion will provide for growth and economic development in region.**

Conservation as Part of the Supply Equation

VA energySMART Program includes:

- Community outreach and customer education program
- High efficiency home heating and water heater rebates
- Low income weatherization
- Seasonal check-up rebates
- Energy Star residential new construction program
- Free programmable thermostats
- Air filter discounts

For Your Home For Your Business For Builders/Developers 1-877-572-3342 Natural Gas Leaks, Odors or Emergencies

Rebates on Energy Efficient Equipment
Learn more >

Free Programmable Thermostat
Learn more >

Low Income Weatherization Program
Learn more >

FIND YOUR ENERGY [1THING]

Conserve energy and save on your natural gas bill!

Virginia Natural Gas introduces an innovative program that will help you do your part for the environment by conserving energy while you save on your natural gas bill — energySMART. We believe that by helping our customers conserve energy, we all benefit.

Using natural gas reduces greenhouse emissions and particulates in the air, thus protecting our environment. It is the cleanest-burning fossil fuel with 45 percent fewer CO₂ emissions than coal and is also extremely efficient — 90 percent of natural gas is delivered to appliances as useable energy compared to only one-third of electricity.

Our energySMART program offers several convenient ways for customers to reduce their energy use:

- High-Efficiency Natural Gas Equipment Rebates
- Free Programmable Thermostat
- Low Income Weatherization Program

For Dealers: [energySMART Dealer Forms >](#)

Analyze Your Energy Use

This calculator allows you to compare your carbon footprint with Natural Gas appliances vs. electric appliances. [Open carbon calculator >](#)

Learn the Lingo!

Check out our energySMART conservation glossary. [Learn more >](#)

energySMART Conservation Tips

Here are some simple steps you can take to Save Money and Resources Today. [Go to tips >](#)

Save Money and Protect the Environment

Get information on energy efficient products and practices from [ENERGY STAR >](#)