Alaska's Natural Gas Pipeline – Moving Forward – Helping Securing North America's Energy Future

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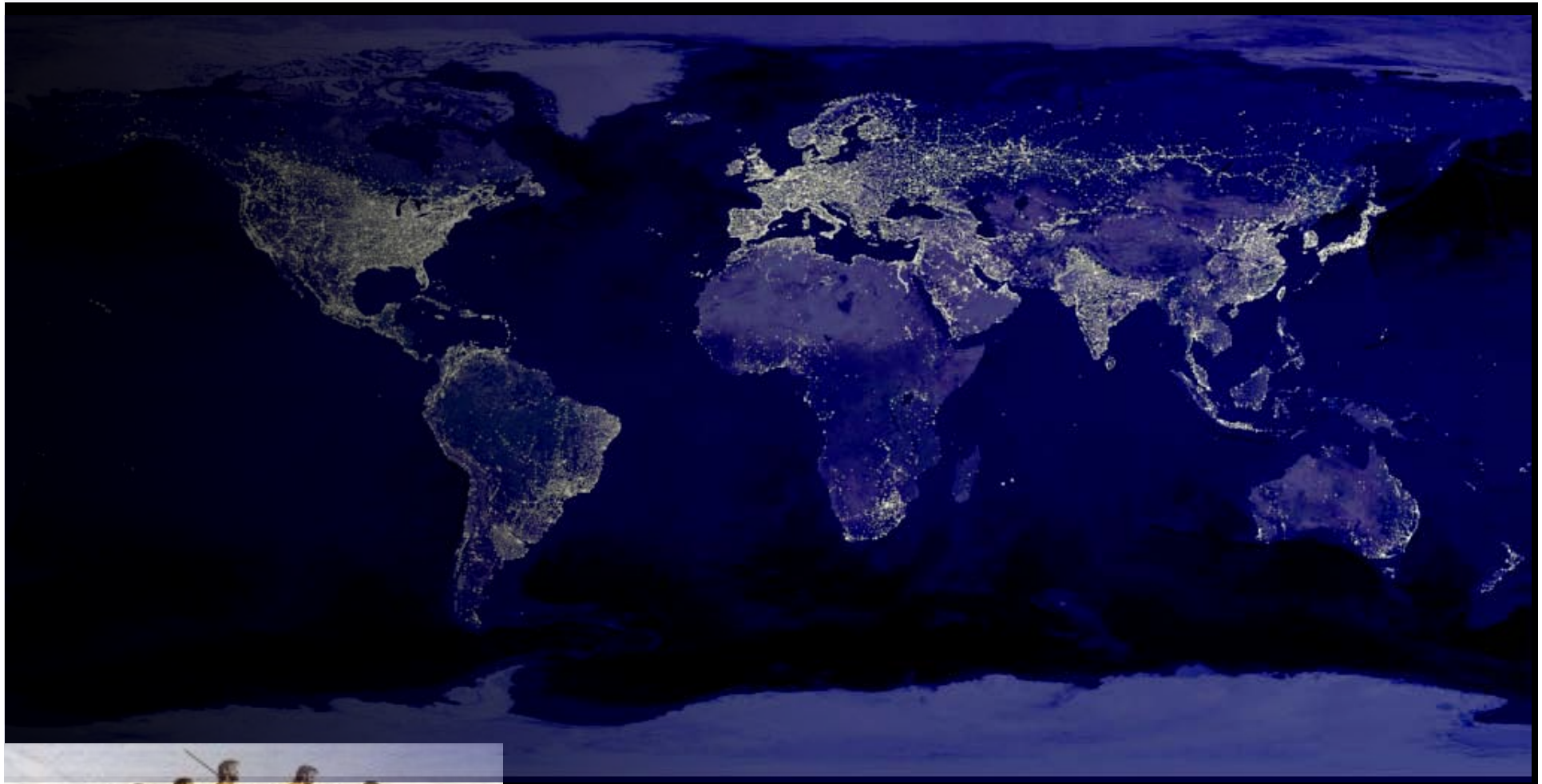
The Alaska Gasline Inducement Act



Dr. Mark Myers
November 17, 2009

Project Definition

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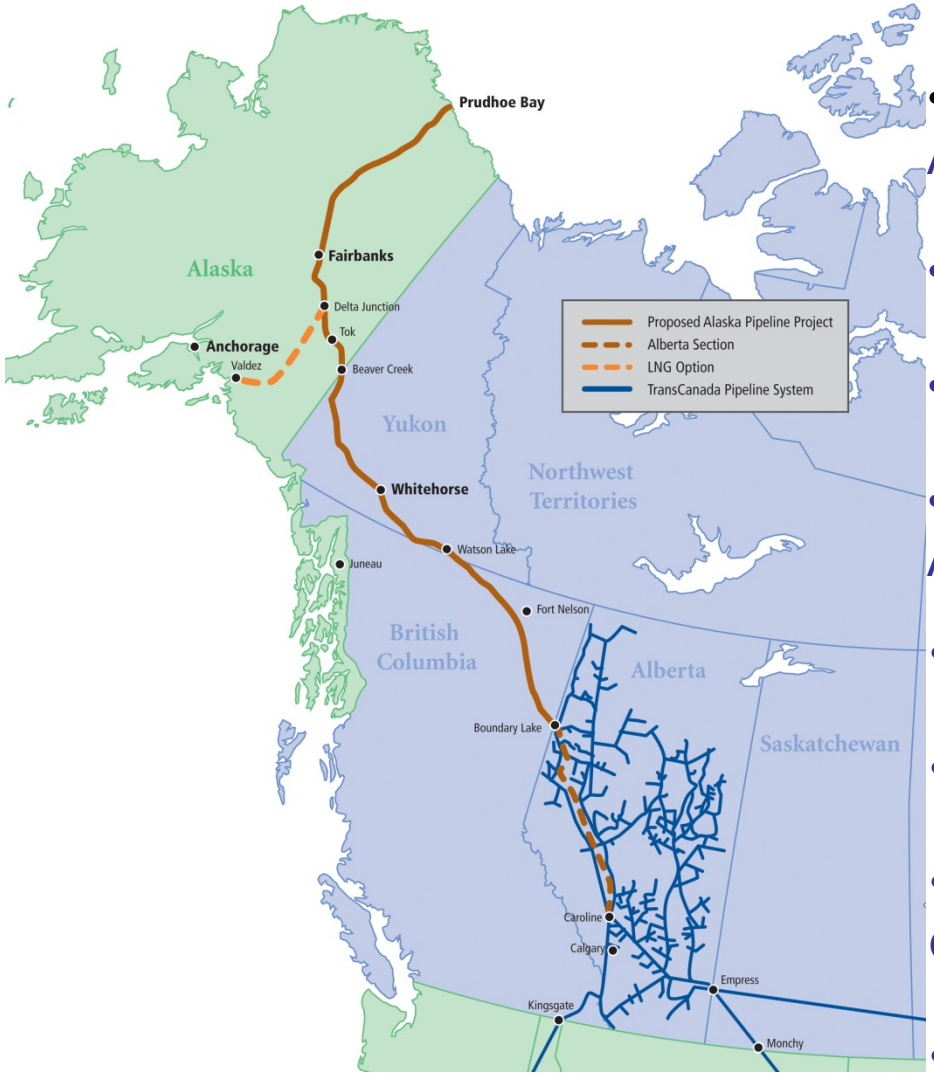

- Largest private infrastructure project in North America
- Gas Treatment Plant at Prudhoe Bay
- Pipeline from Prudhoe Bay to Alberta Hub
- Total pipeline length:1,700 miles – 734 in Alaska; 517 in Yukon, 449 in BC
- Pipeline diameter and grade: 48” X80
- Max operating pressure: 2,500 psig
- Pipeline capacity: base design: 4.5 bcf/day: with max compression: 5.9 bcf/day
- 6 % of U.S. production at base design

Why This Project?

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- Large volumes to a very large and robust market
- More market flexibility and higher wellhead price for producers and royalty owners
- Connects to underutilized Canadian and US pipeline infrastructure
- Opens up the North Slope and other Alaskan gas basins to the market

For the Alaskan public it means more income to the general and permanent funds and the lowest cost North Slope gas to the instate market

Natural Gas is America's Resource For Enhancing Economic, Environmental and National Security

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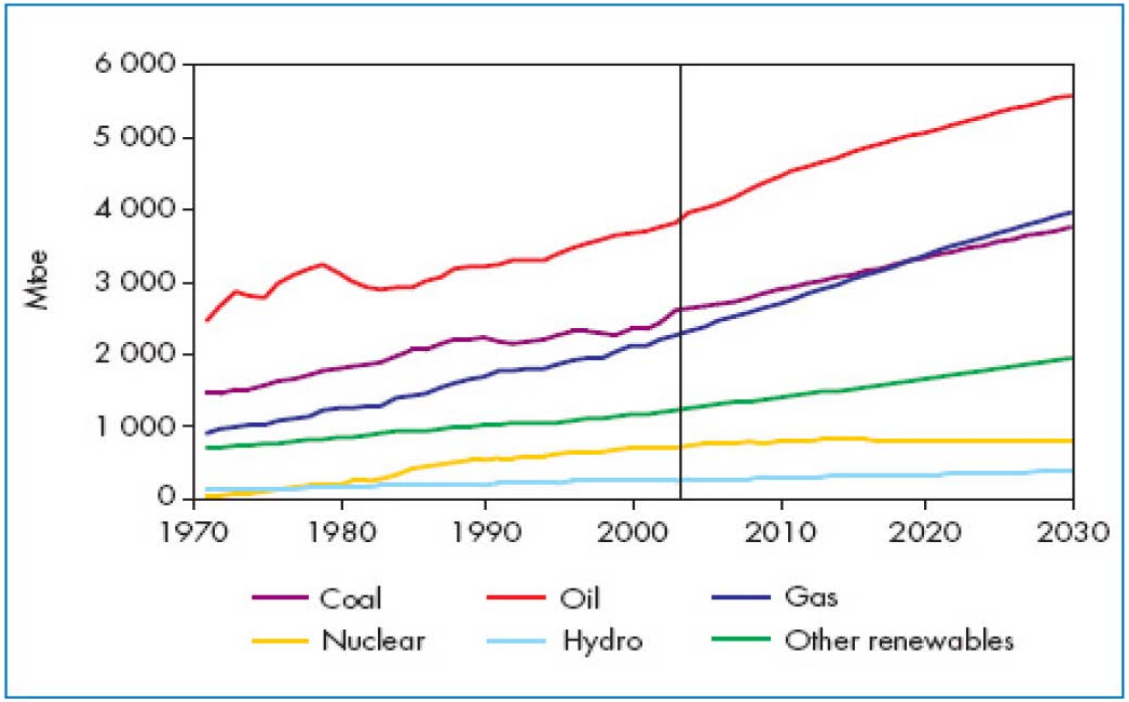
- Global competition for imported energy
- Growing population, long term economic growth heighten worldwide demand
- Environmental consequences of development, extraction, and use of other resources



World Energy Consumption by Source

The Energy Mix for the United States

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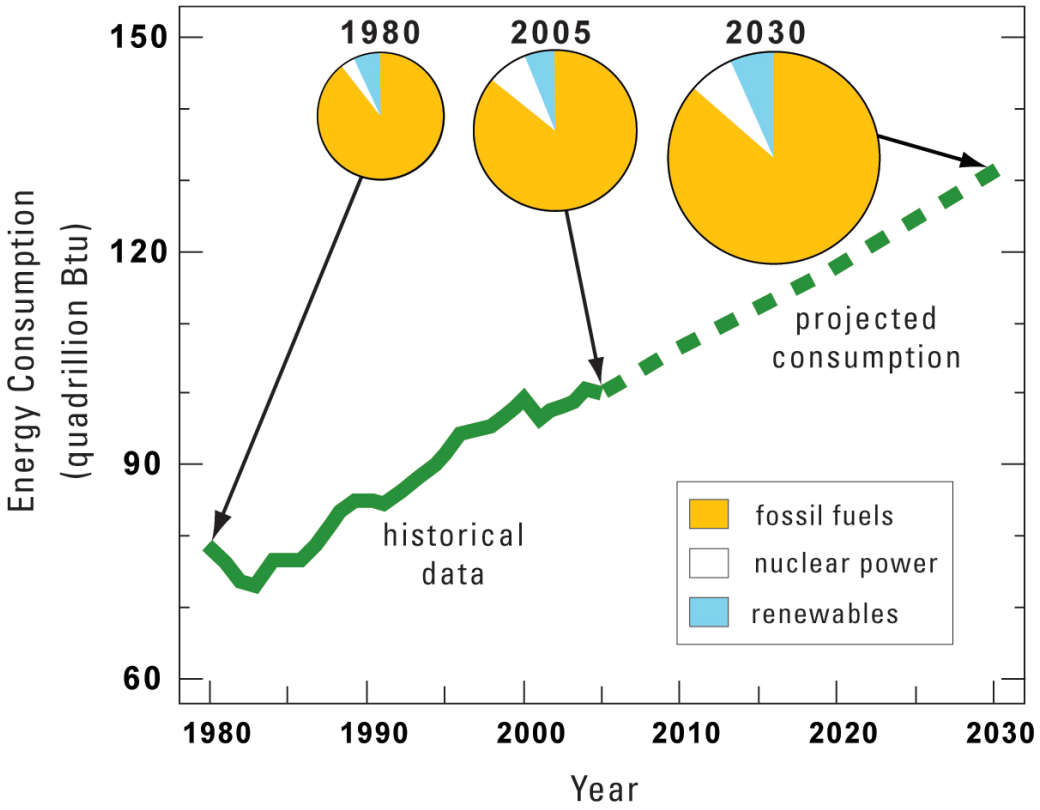

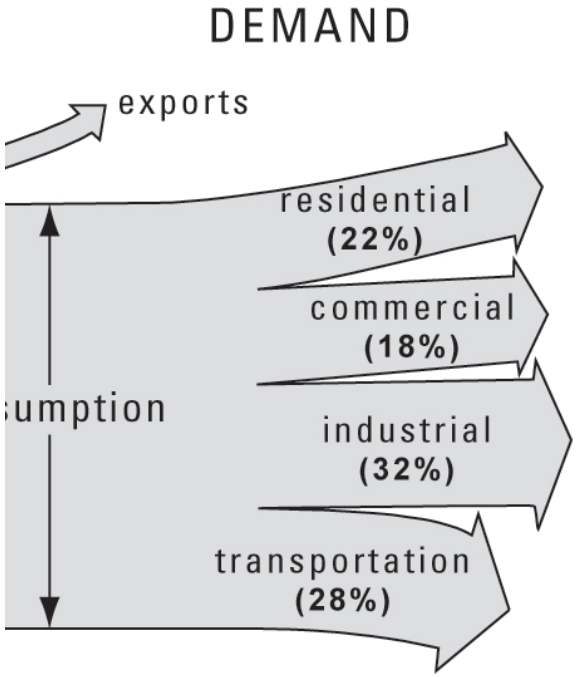

EIA

Domestic Natural Gas: Critical Bridge to a Sustainable Future

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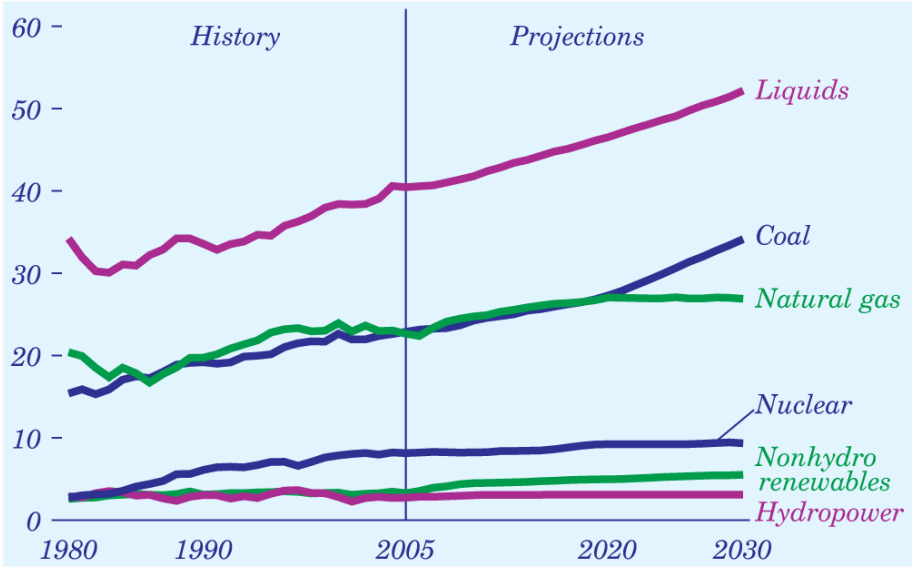
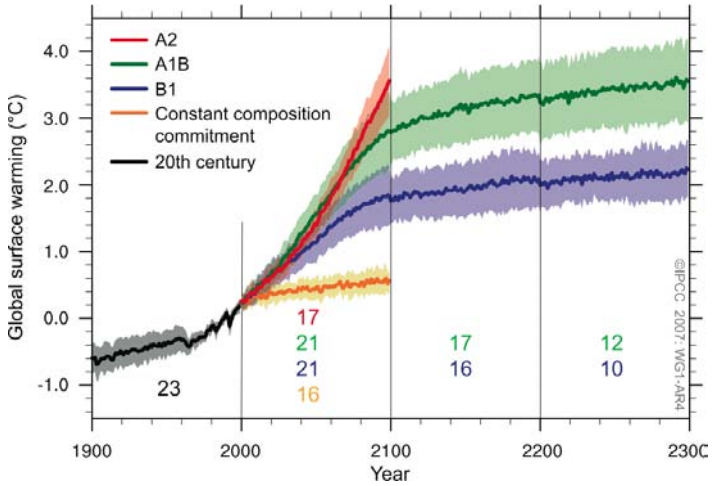
United States Energy Consumption by Fuel



EIA

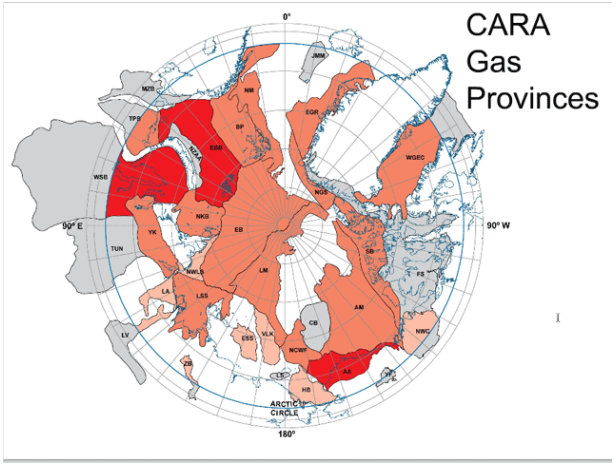
Carbon Emissions



USGS

Figure TS. 32

IPCC 2007: WG1-AR4



No Free Lunch: All New Sources of Energy Have Their Own Unique Environmental Challenges: Biomass/Water

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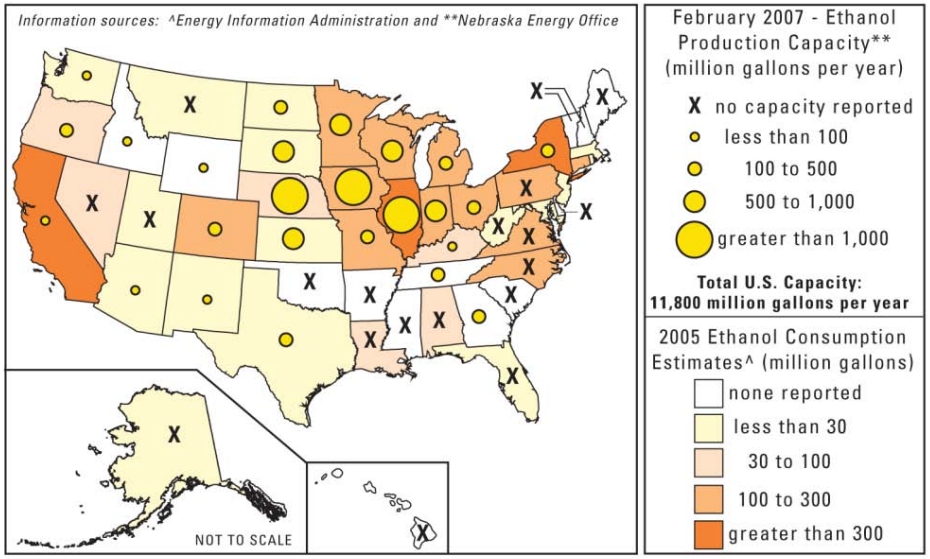
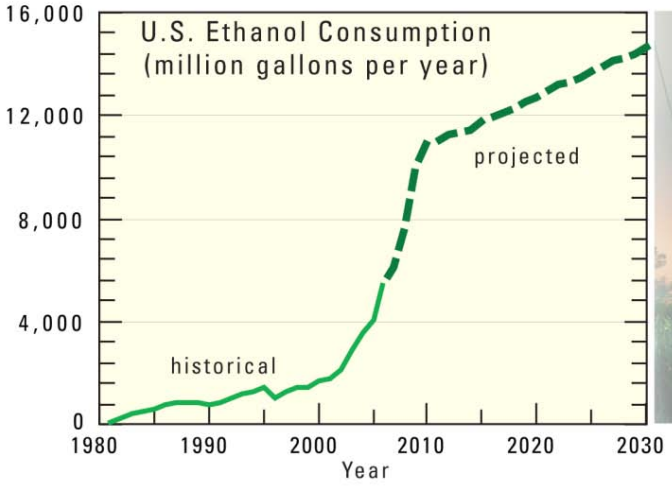
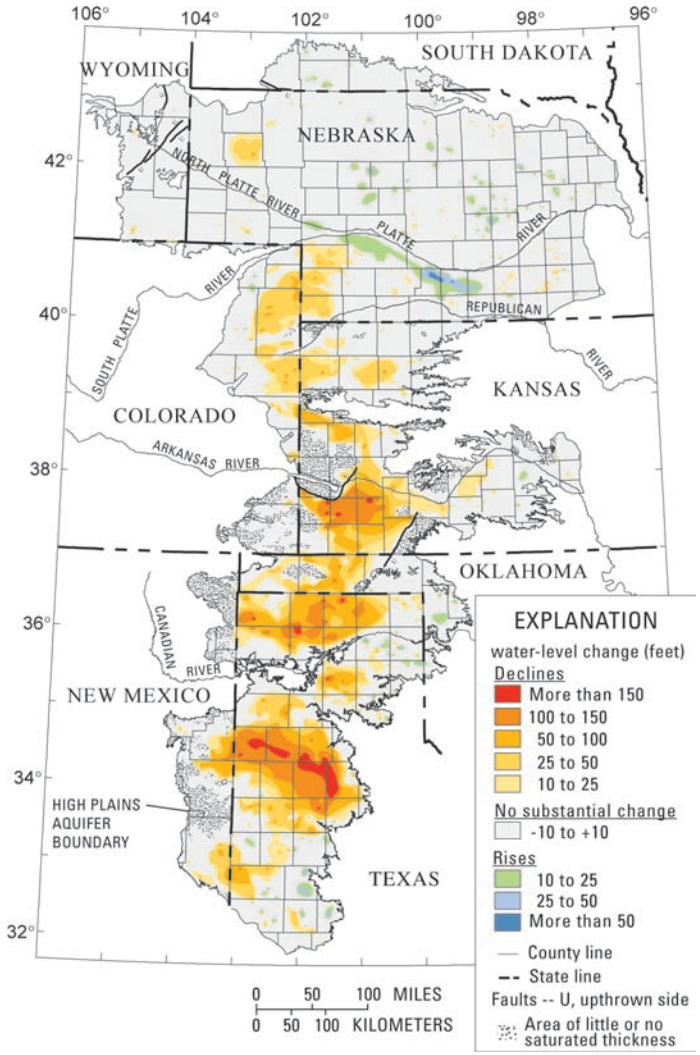
USGS/EIA







Competing Demands For Land, Water and Energy Will Challenge Regulators and Policy Makers

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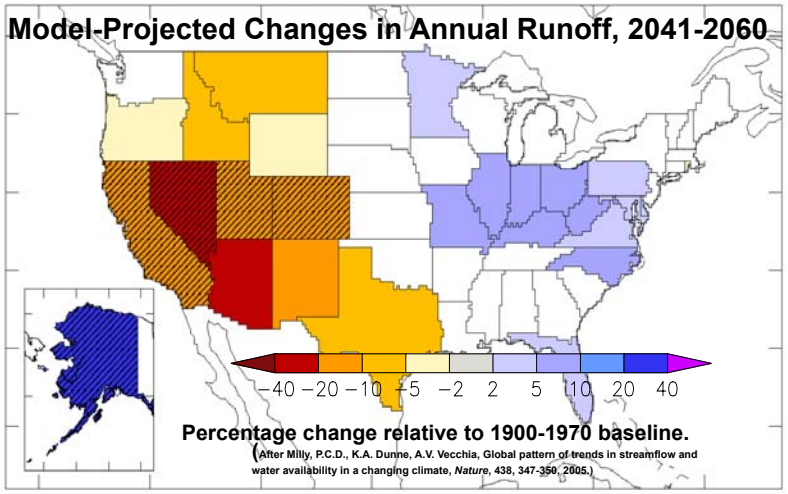

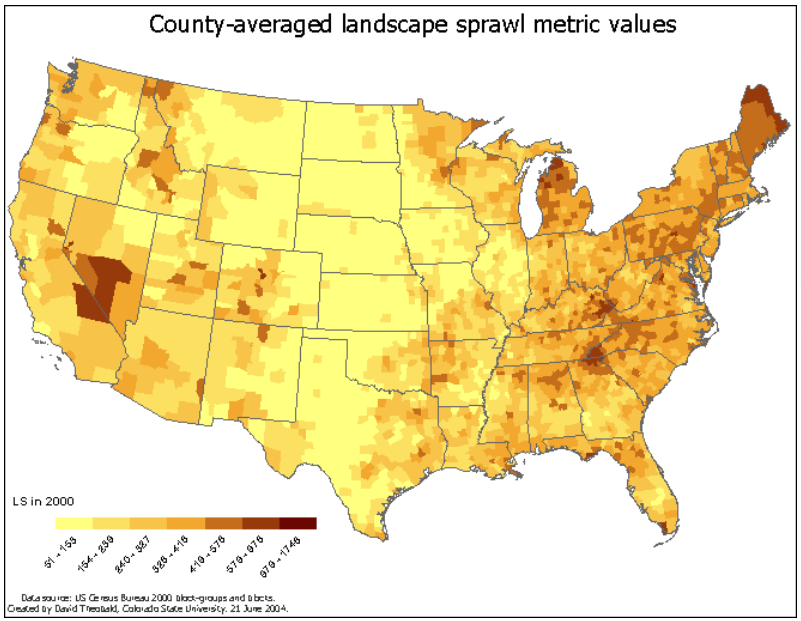

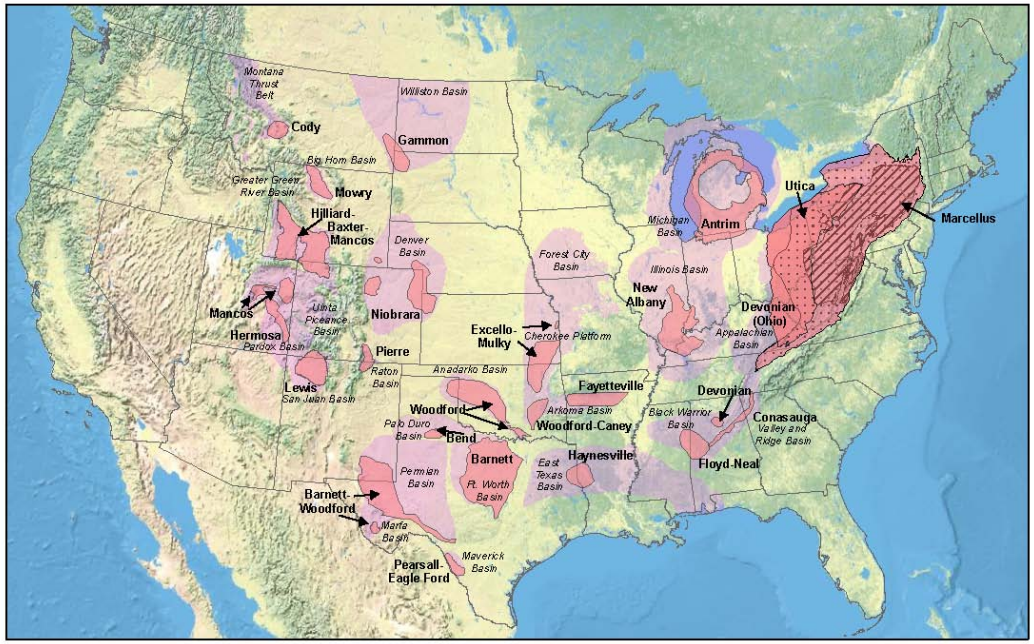

United States Shale Gas Plays

www.eia.doe.gov
Energy Information Administration
Office of Oil and Gas

Shale Gas Plays
Basins

Stacked Appalachian Plays
Marcellus
Utica
Devonian (OH shale)

November 2008
Miles
0 150 300 600

N

Petroleum and the USA Today

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- How have things changed recently?
  - Global economic downturn with associated rapid decline in gas prices and drilling
    - **Baker Hughes rotary rig count for US gas drilling for the week ending Nov 13, 2009 was 728 rigs – down 51% from previous year**
  - Rapid expansion of unconventional gas supplies in USA
  - Policy shift limiting access to federal lands for non-renewable energy production?
  - Increased likelihood of carbon regulation
  - First authoritative Arctic oil and gas assessment

Domestic Production Increasing Due in Large Part to Unconventional Gas

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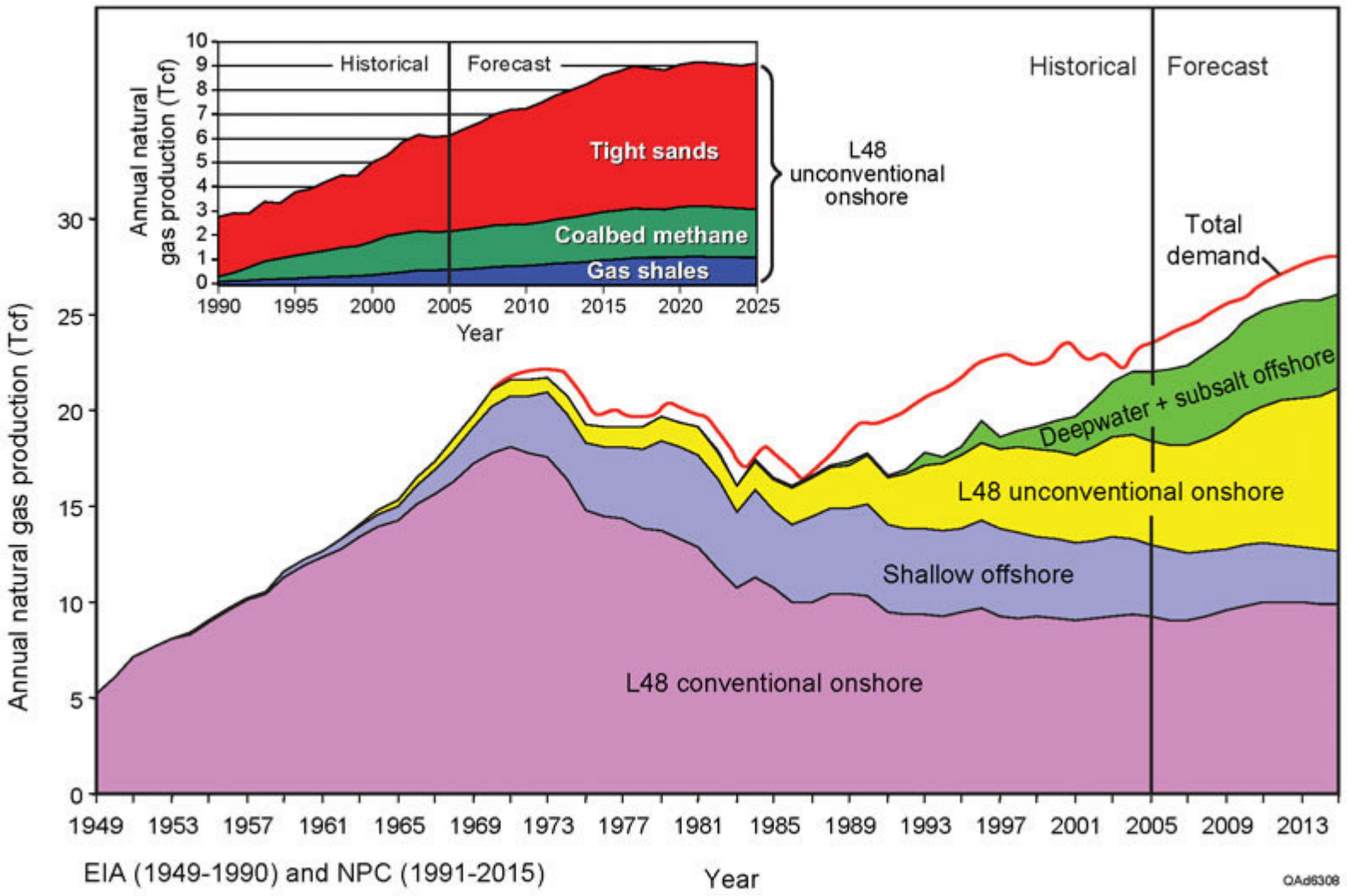

*More Recent EIA Price Forecasts for Gas Predict **Higher** Long-term Prices for Natural Gas in the U.S.*

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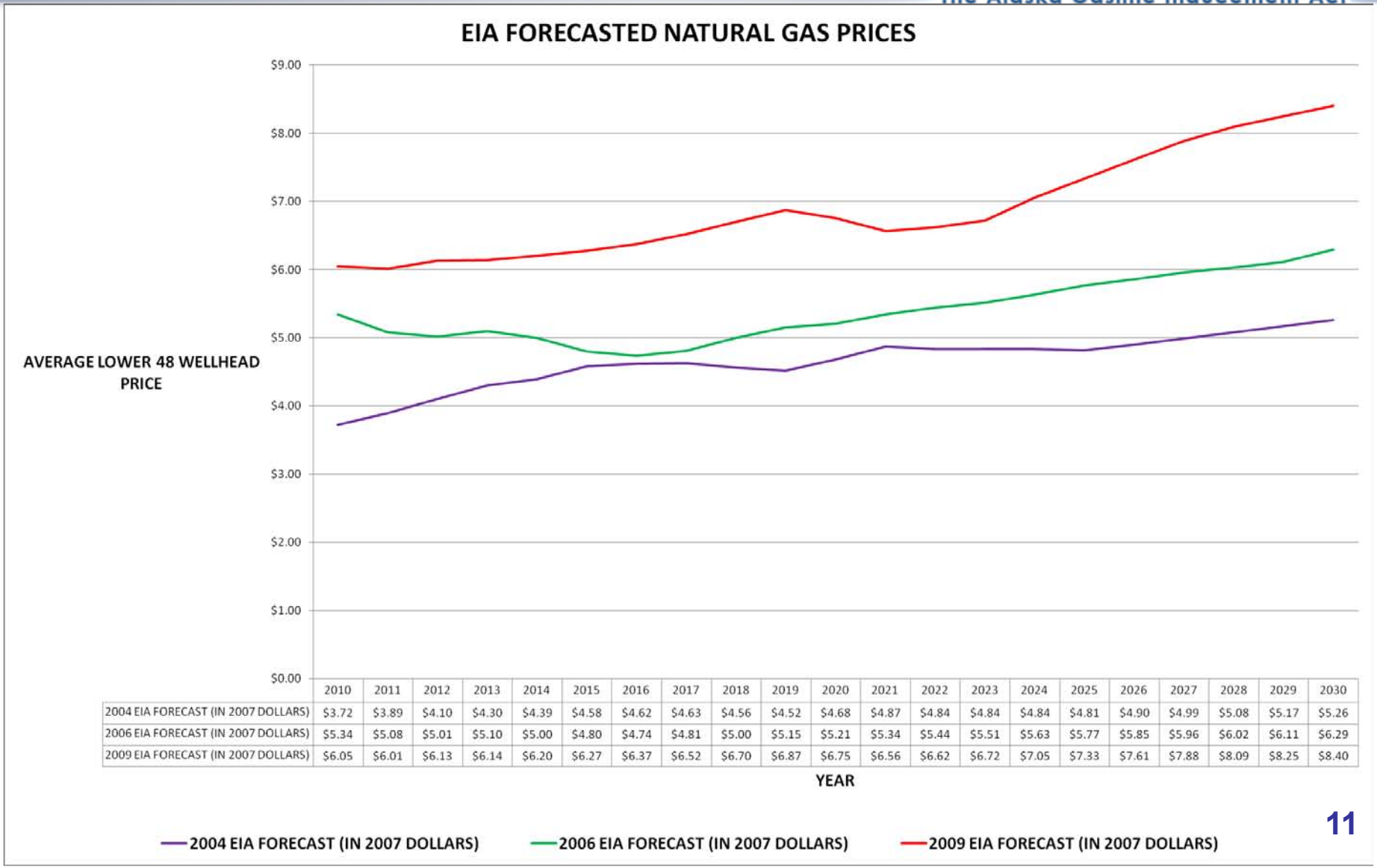

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2004 EIA FORECAST (IN 2007 DOLLARS)	$3.72	$3.89	$4.10	$4.30	$4.39	$4.58	$4.62	$4.63	$4.56	$4.52	$4.68	$4.87	$4.84	$4.84	$4.84	$4.81	$4.90	$4.99	$5.08	$5.17	$5.26
2006 EIA FORECAST (IN 2007 DOLLARS)	$5.34	$5.08	$5.01	$5.10	$5.00	$4.80	$4.74	$4.81	$5.00	$5.15	$5.21	$5.34	$5.44	$5.51	$5.63	$5.77	$5.85	$5.96	$6.02	$6.11	$6.29
2009 EIA FORECAST (IN 2007 DOLLARS)	$6.05	$6.01	$6.13	$6.14	$6.20	$6.27	$6.37	$6.52	$6.70	$6.87	$6.75	$6.56	$6.62	$6.72	$7.05	$7.33	$7.61	$7.88	$8.09	$8.25	$8.40

Both Lower 48 Unconventional and Alaska North Slope Gas are Needed for America's Future

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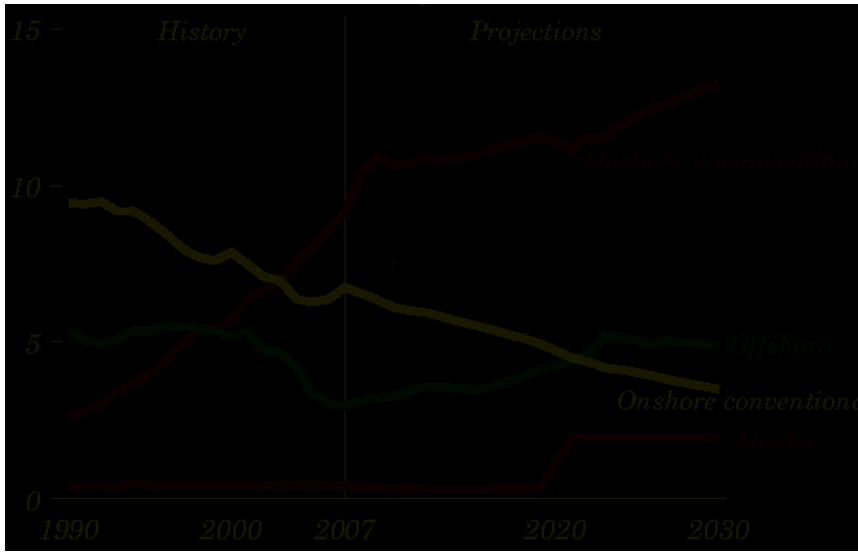
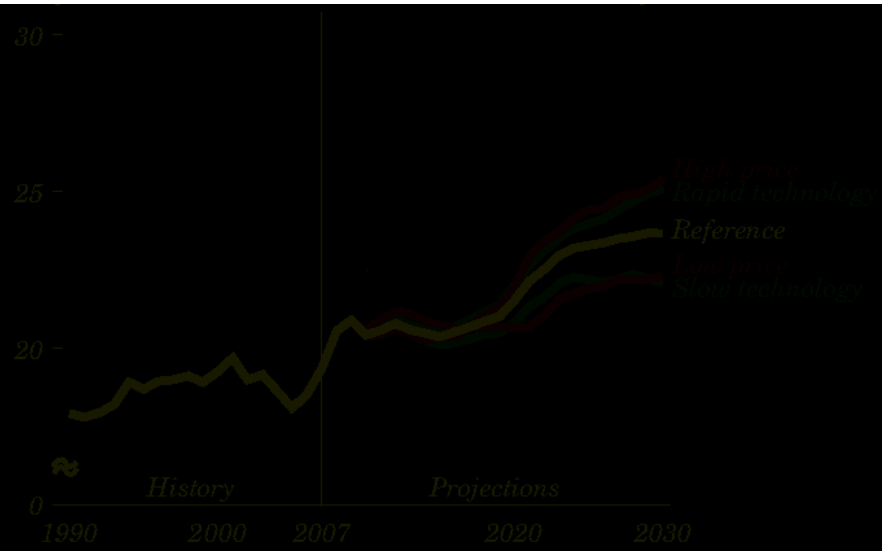


Natural gas production by source, (1990-2030 9trillion cubic feet)



Total U.S. natural gas production in five cases, 1990-2030 (trillion cubic feet)

Source: EIA Annual Energy Outlook 2009

Undiscovered, Conventional Gas Resources of the U.S.

Alaska resources = 36% of national total

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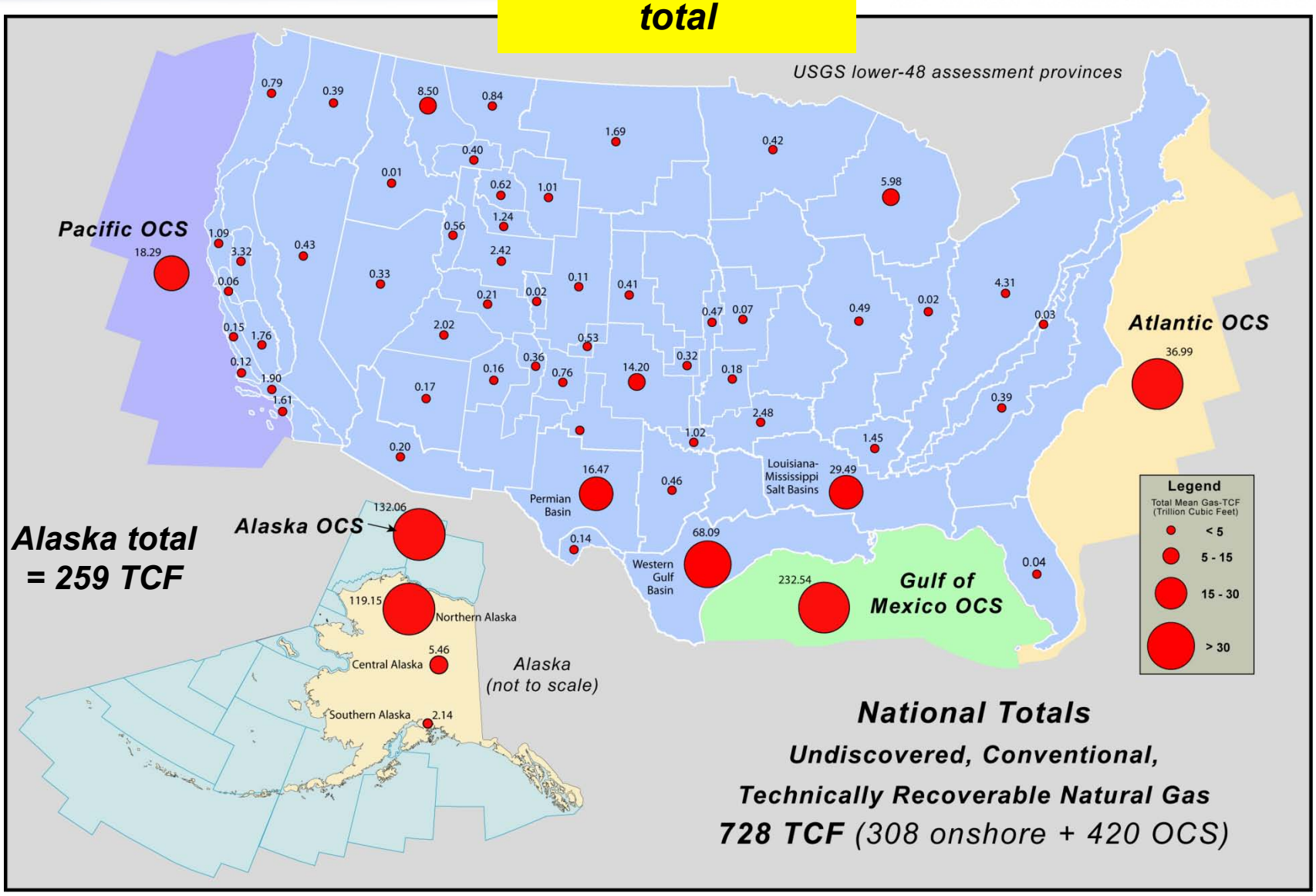

Alaska's Unconventional Gas Resources (continuous resources)

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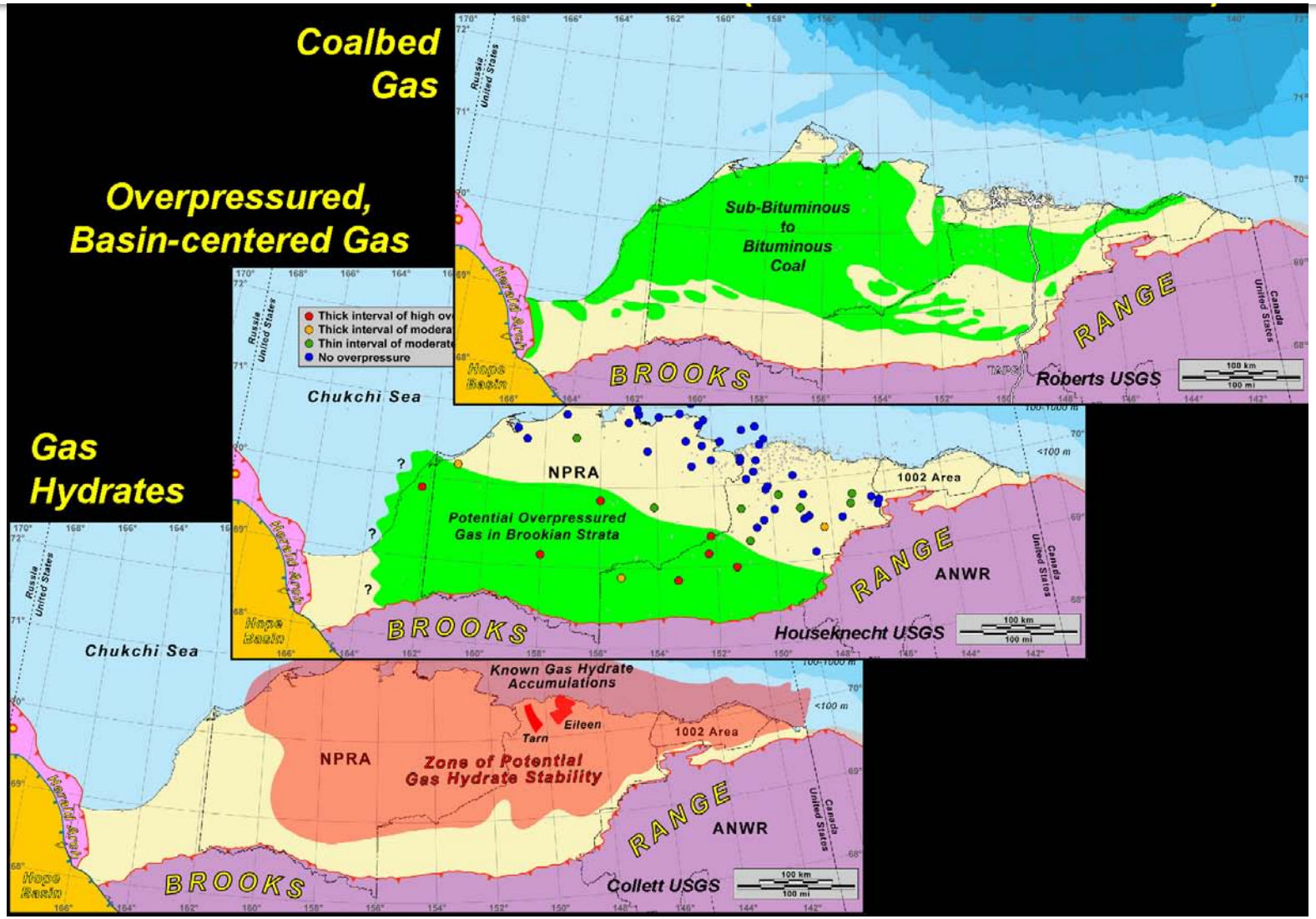

Alaska's North Slope is Very Under-Explored

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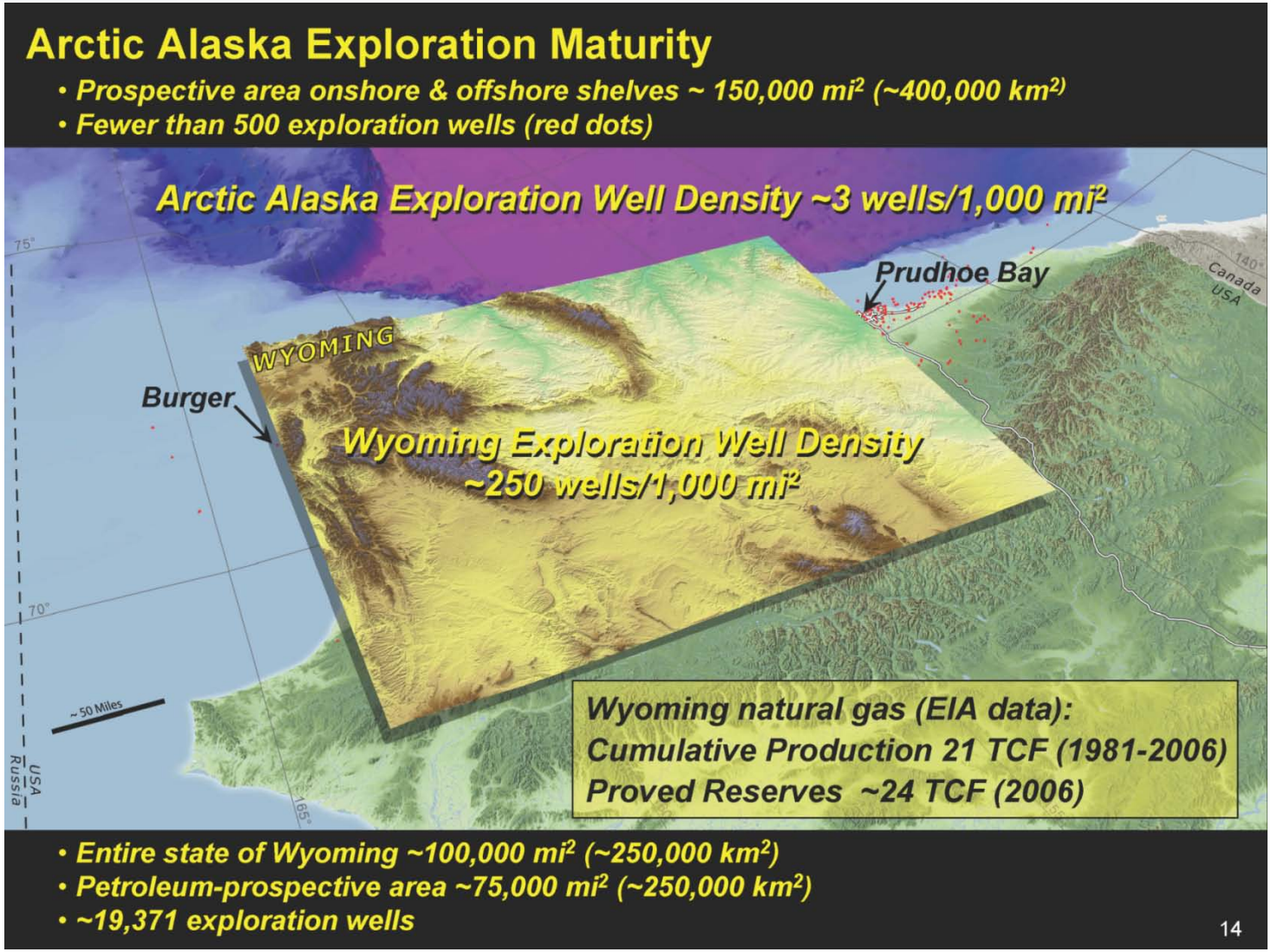

Courtesy of USGS

Project Will Take A Decade To Complete From Start to Finish

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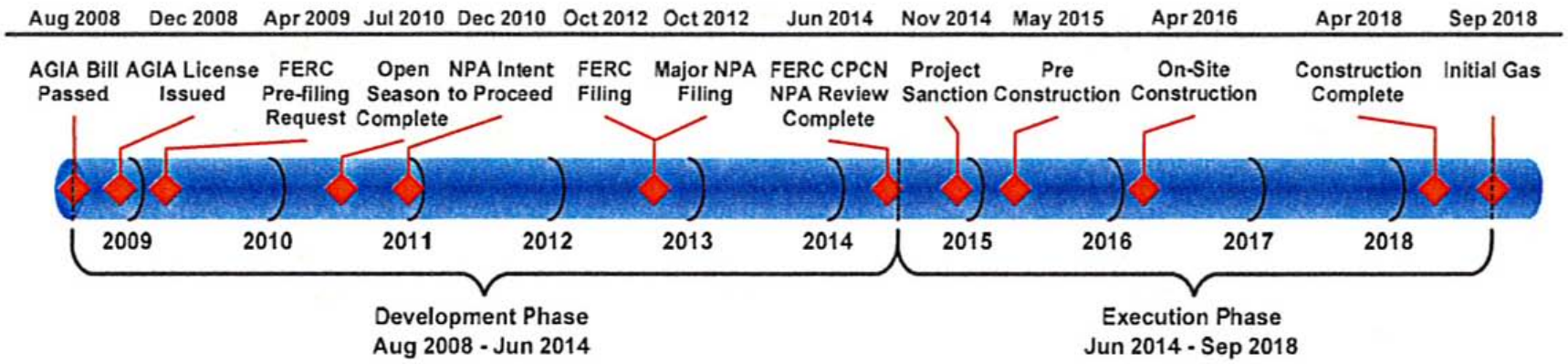
Project timeline showing Key Milestones



Project Update

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- TransCanada pre-files with FERC to initiate licensing process (April/May 2009).
- Exxon Mobil joins TransCanada to form an integrated project team to advance the project through the open season (June 2009). Joint project team fully functional and on schedule.
- In depth technical studies on schedule for the April - July 2010 open season. These studies include third party studies on the gas treatment plant, pipeline design, environmental conditions, in-state gas demand, and field surveys.
- Initiation of Commercial discussions between the pipeline and potential shippers.
- State and Federal agency coordination enhanced with regular meetings and technical discussions.
- White House and Governor support for bringing Alaska's vast natural gas resources to the North American market.

AGIA timeline 2010 - 2018

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- **July 2010: Conclude initial open season**
- **October 2012: Apply for FERC certificates of public convenience and necessity to authorize the construction and operation of the Alaska Section and gas treatment plant**
- **November 2014: Project sanction**
- **September 2018: Project in service date**

Timeline/Steps for a Typical Open Season

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- Pipeline identifies a potential project and announces its intent to pursue the project
- Pipeline prepares a package of terms for shipping on the project
- Pipeline and shippers will negotiate all of the critical terms and conditions for participation in a precedent agreement in advance of the actual open season
- Pipeline conducts the official open season to allow all interested parties the opportunity to participate

Timeline/Steps for a Typical Open Season (Continued)

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- Successful bids are identified and awarded
- Pipeline and shippers negotiate the conditions and terms contained in the formal bids submitted in the open season
- The tariff and precedent agreements are amended to reflect the results of such negotiations
- Major Takeaway – Negotiations take place before , during and after the formal open season process

Many Conditions or "Outs" May Be Included by Shippers in Negotiated Precedent Agreements

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- Increases in costs (e.g., rates) or risks to shippers adversely affecting project economics
- Project deadlines or milestones not achieved
  - Certificate filing dates
  - Receipt by pipeline or shippers of necessary governmental approvals
  - Project sanction date or projected in-service date
- Unacceptable conditions required by governmental or regulatory agencies
- Approvals by Board of Directors or appropriate authorities
- If termination rights are exercised, who pays for development costs?
  - Objective or subjective criteria
  - When is the right exercised
  - Failure to reasonably perform or outside of terminating party's control
  - Type and timing of development costs

The Open Season Commitments Will Provide the Following to the Pipeline

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- Provides the necessary technical information to design the facilities for the project including:
  - Volume commitments and term
  - Gas composition and quality
  - Receipt and delivery points
- Provides the commercial terms and conditions for shipper commitments to the project
- Defines the allocation or sharing of risks for moving the project forward

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