2010 Energy Outlook: Trends and Policies

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Take Away Points – What's Happened?

- **Worst economic recession in history. Record unemployment rates by any measure makes this the single most important benchmark and characteristic.**
- **Demand impacts (domestic, global) were considerable and have significant impacts on prices.**
- **Market has reacted with considerable supply, transportation, refining/processing and storage infrastructure development despite volatile prices and risks.**
    - **Classic industry infrastructure overshoot...**
- **Natural gas production and reserve increases have been impressive. Crude reserves holding steady with some anticipated growth in production in EOR and deepwater. Very impressive resource development over the past three years alone.**
    - **Classic industry innovation response….**

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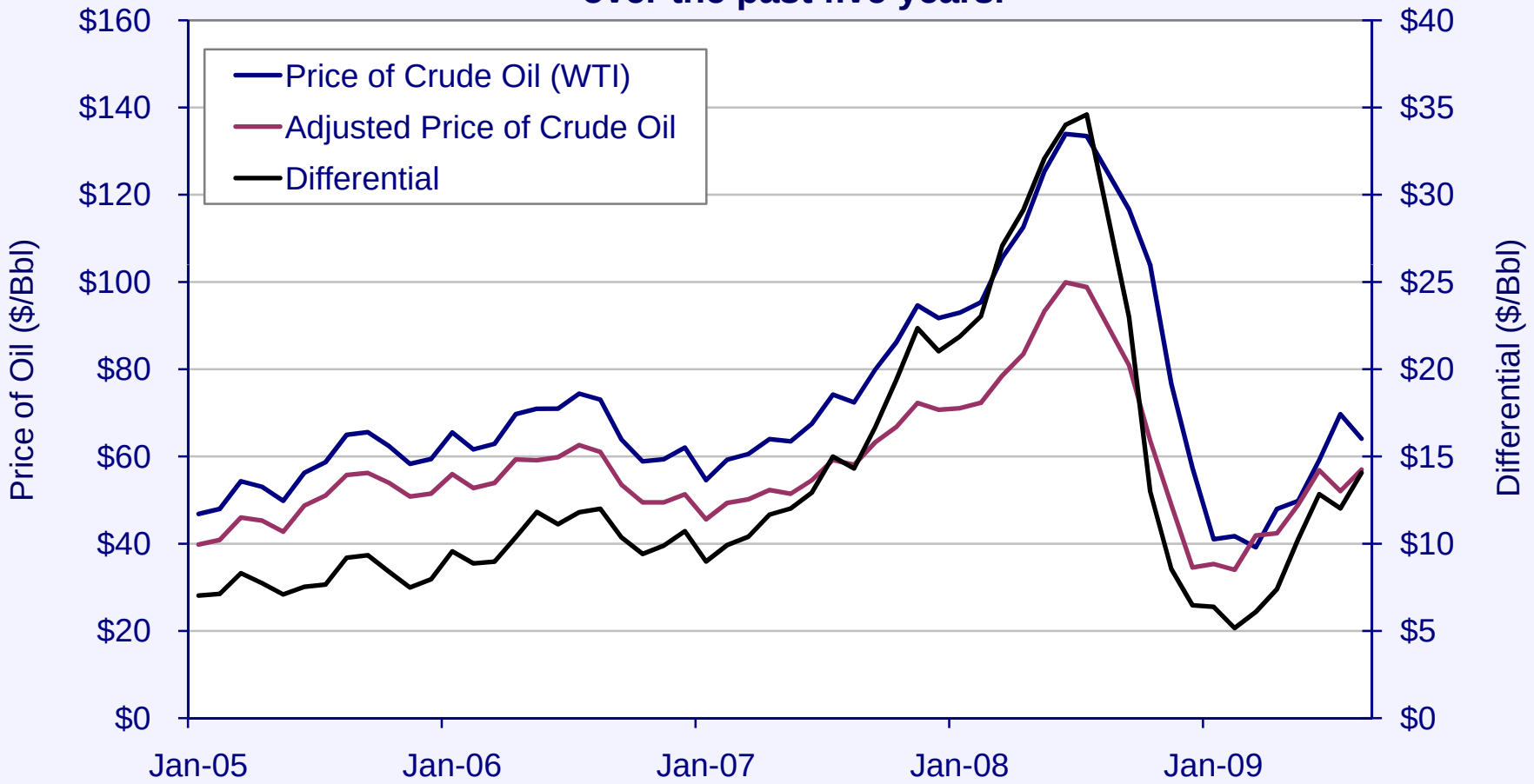
Take Way Points: Outlook & Issues

- **Resource development and innovation over the past 48 to 26 months has been phenomenal. Gains that clearly will have important long-run ramifications for energy supplies (domestically and globally).**
- **Demand (recovery) big unknown at this point.**
  - **Economic recovery is uncertain.**
  - **New technologies likely to have significant and unknown impacts on markets.**
- **Policy still has an impact, several initiatives that could unwind resource gains. Opportunities for big gains, big contractions (are we headed for 1974 or 1979?)**
- **Balanced approach still makes the most sense. We are in good position – leave the market alone.**

Recent Trends

Dollar Value and Oil Prices

Prices say a lot about what has been going on in energy markets over the past five years.



Note: The adjusted price of crude oil is the nominal WTI adjusted by the Federal Reserve Bank's Broad Index. The Broad Index is a weighted average of the foreign exchange values of the U.S. dollar against the currencies of a large group of major U.S. trading partners. Base year is 2002.
Source: Federal Reserve Bank

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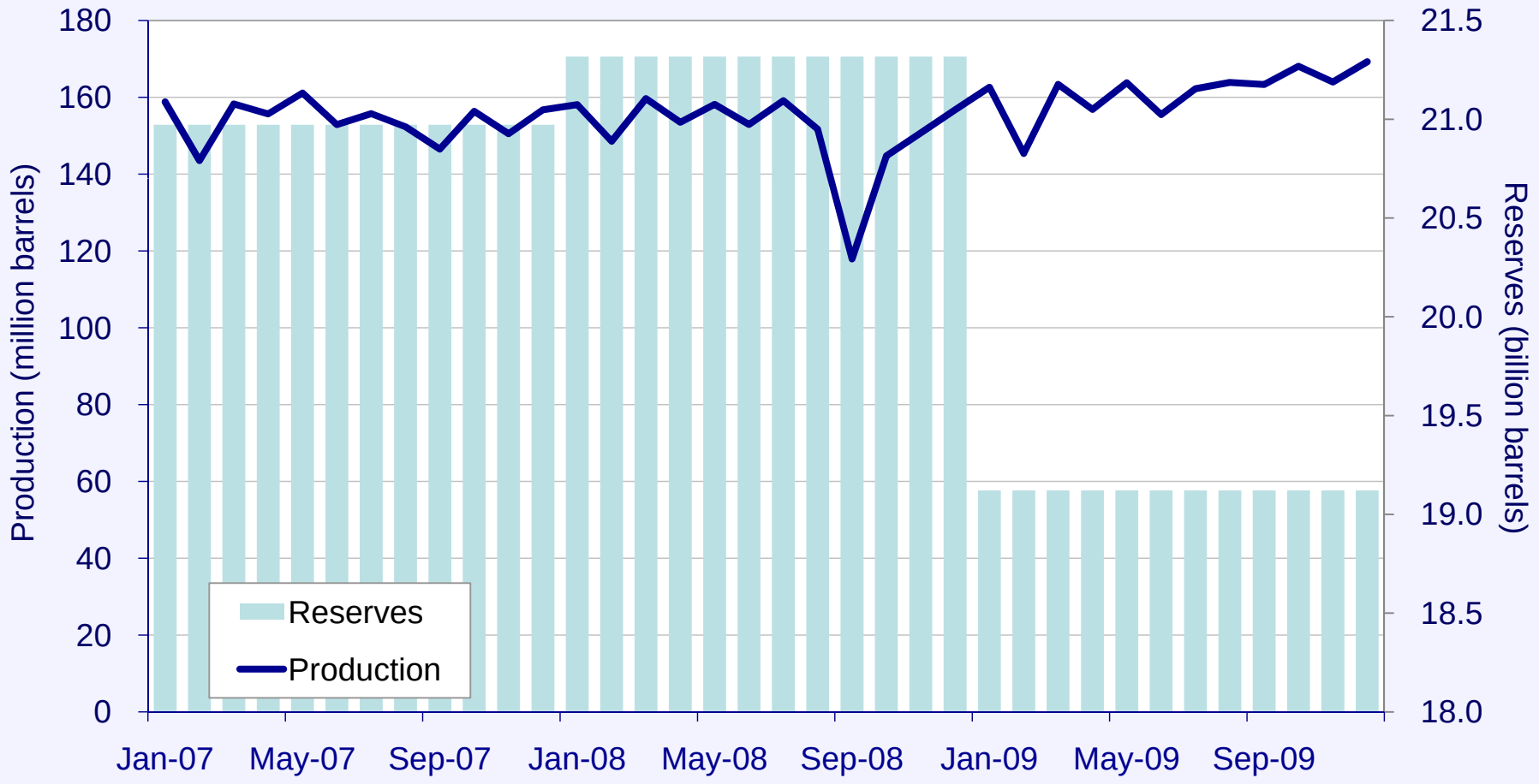
U.S. Crude Oil Production and Proved Reserves January 2007 to Present

U.S. crude production, while down from its heyday, is reaching a plateau given EOR and deepwater GOM production.



Source: Energy Information Administration, U.S. Department of Energy

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Publicly Announced Lower Tertiary Trend Discoveries in the Gulf of Mexico

Prospect	Block	Operator	Discovery Date
Trident	AC 903	Chevron	2001
Great White	AC 857	Shell	2002
Cascade	WR 206	BHP	2002
Chinook	WR 469	BHP	2003
St. Malo	WR 678	Chevron	2003
Tobago	AC 859	Chevron	2004
Silvertip	AC 815	Chevron	2004
Tiger	AC 818	Chevron	2004
Jack	WR 759	Chevron	2004
Stones	WR 508	BP	2005
Gotcha	AC 856	Total	2006
Kaskida	KC 292	BP	2006

During the last ten years, the average deepwater field has added over 67 MMBOE of proved and unproved reserves.

About 60 billion barrels of oil found in deepwater fields to date.

Some 8- to 10 billion barrels have already been produced.

Yet-to-find potential could be 114 billion barrels of oil, and 68 billion barrels of oil equivalent (BOE) of gas. [Oil and Gas Investor, May 2006]

Source: Minerals Management Service, US Department of the Interior

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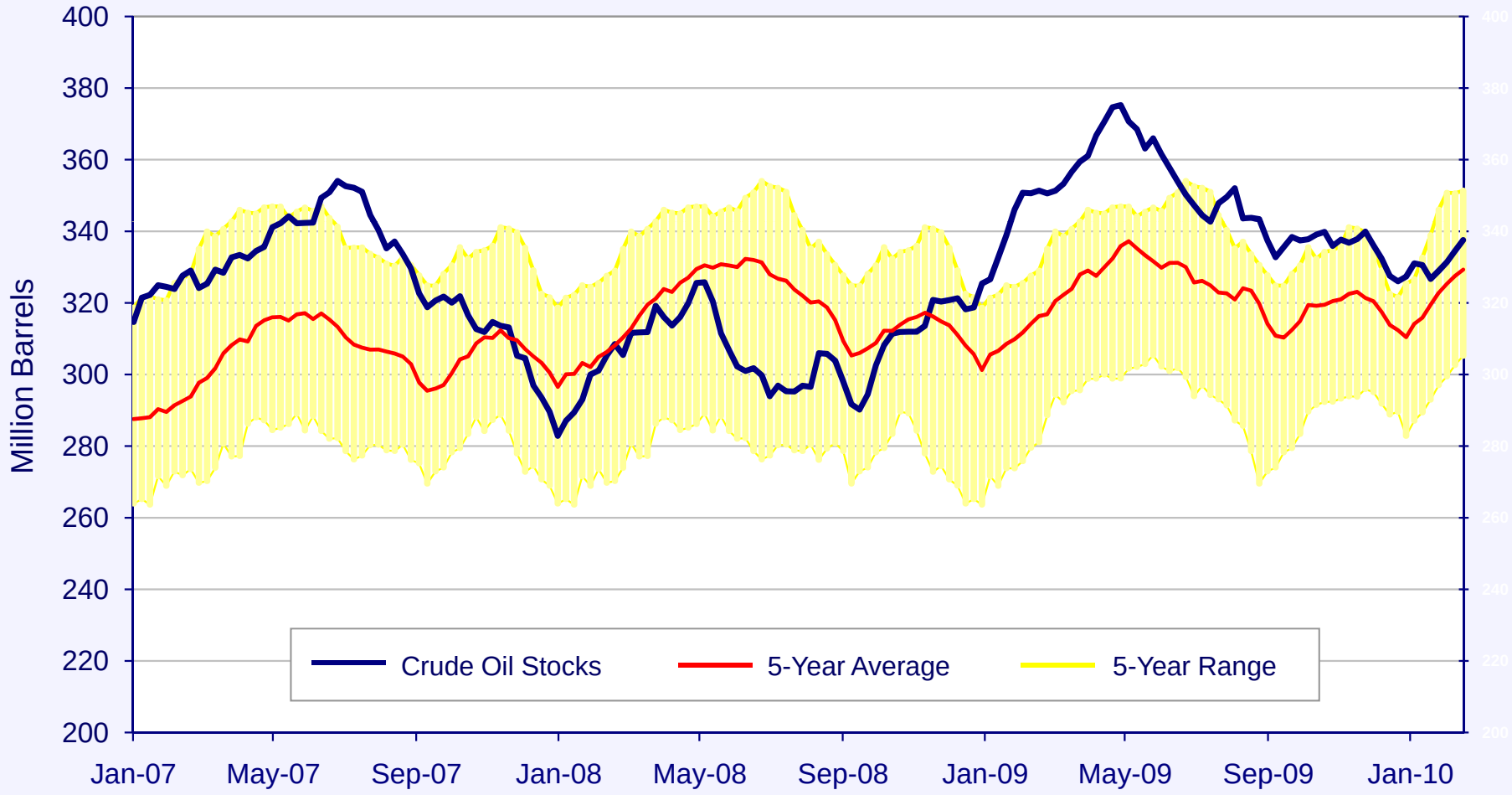
U.S. Crude Oil Stocks

Market continues to be long on crude stocks.



Source: Energy Information Administration, U.S. Department of Energy.

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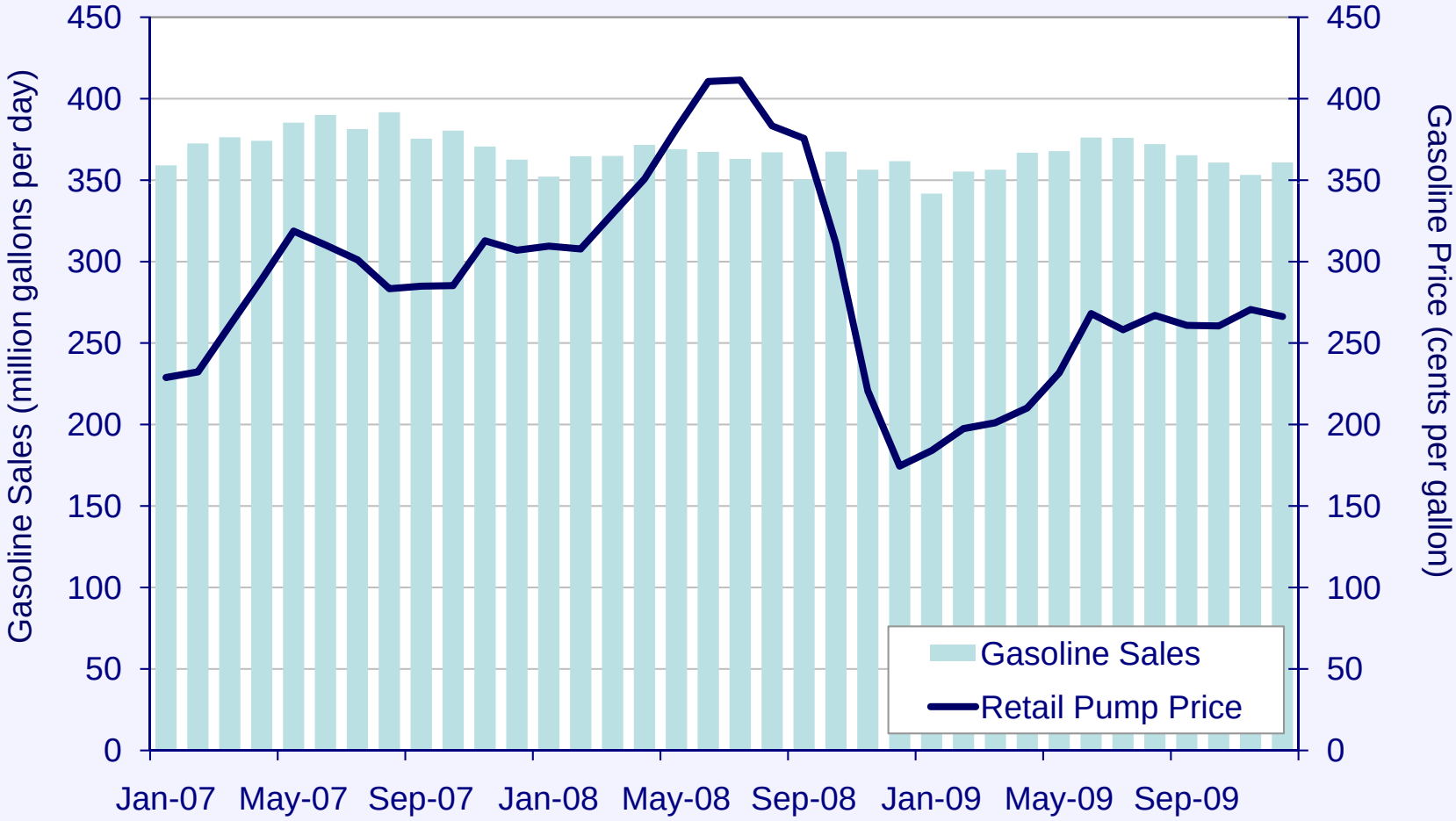
U.S. Gasoline Demand and Retail Pump Prices

The bottom has finally fallen out of gasoline demand. Many do not anticipate these levels to recover for at least a decade, if ever.



Source: Energy Information Administration, U.S. Department of Energy

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Hybrids

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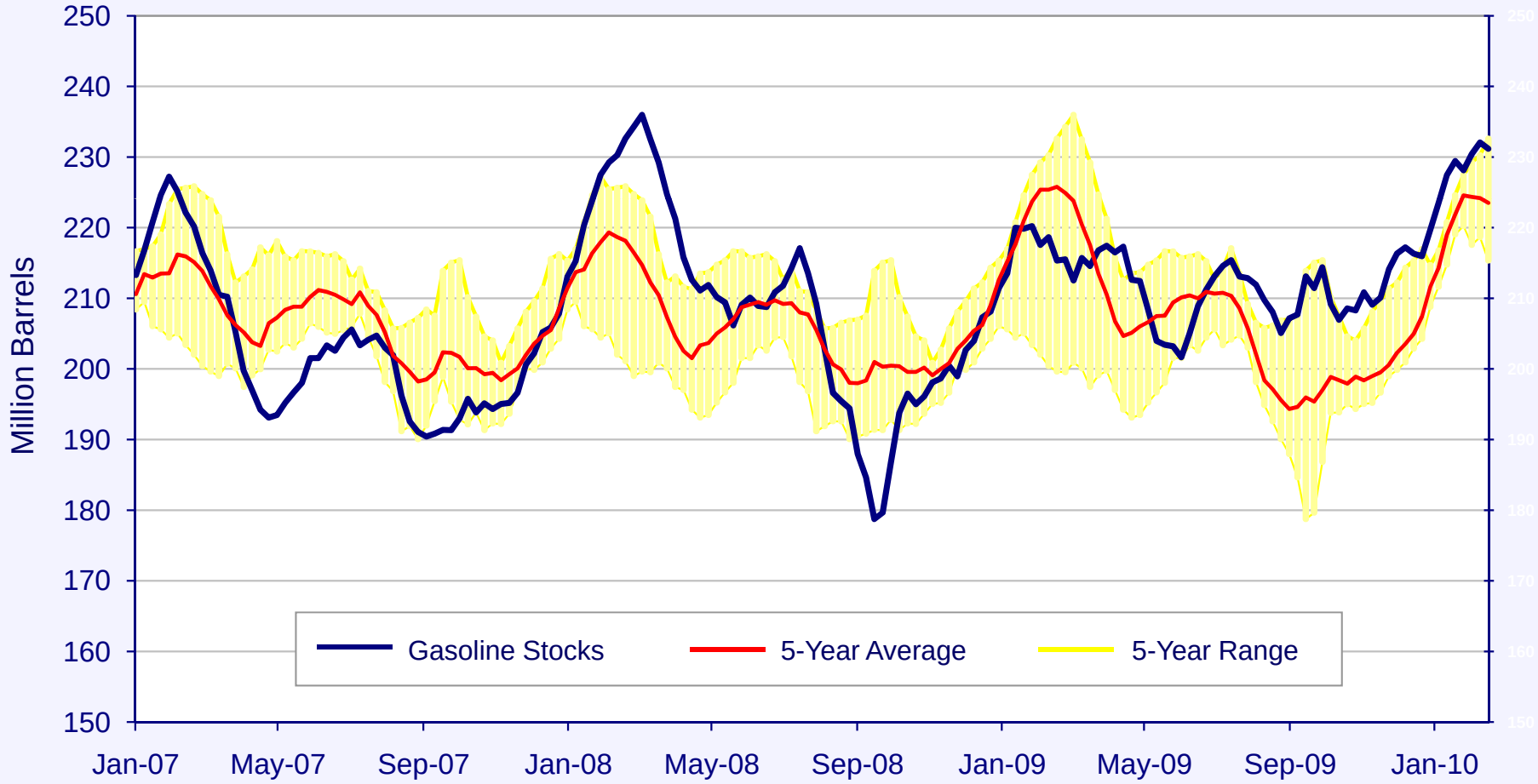
U.S. Gasoline Stocks and Days of Supply

Low stocks help drive up prices in 2007, but a moderate recovery started in 2008.



Source: Energy Information Administration, U.S. Department of Energy.

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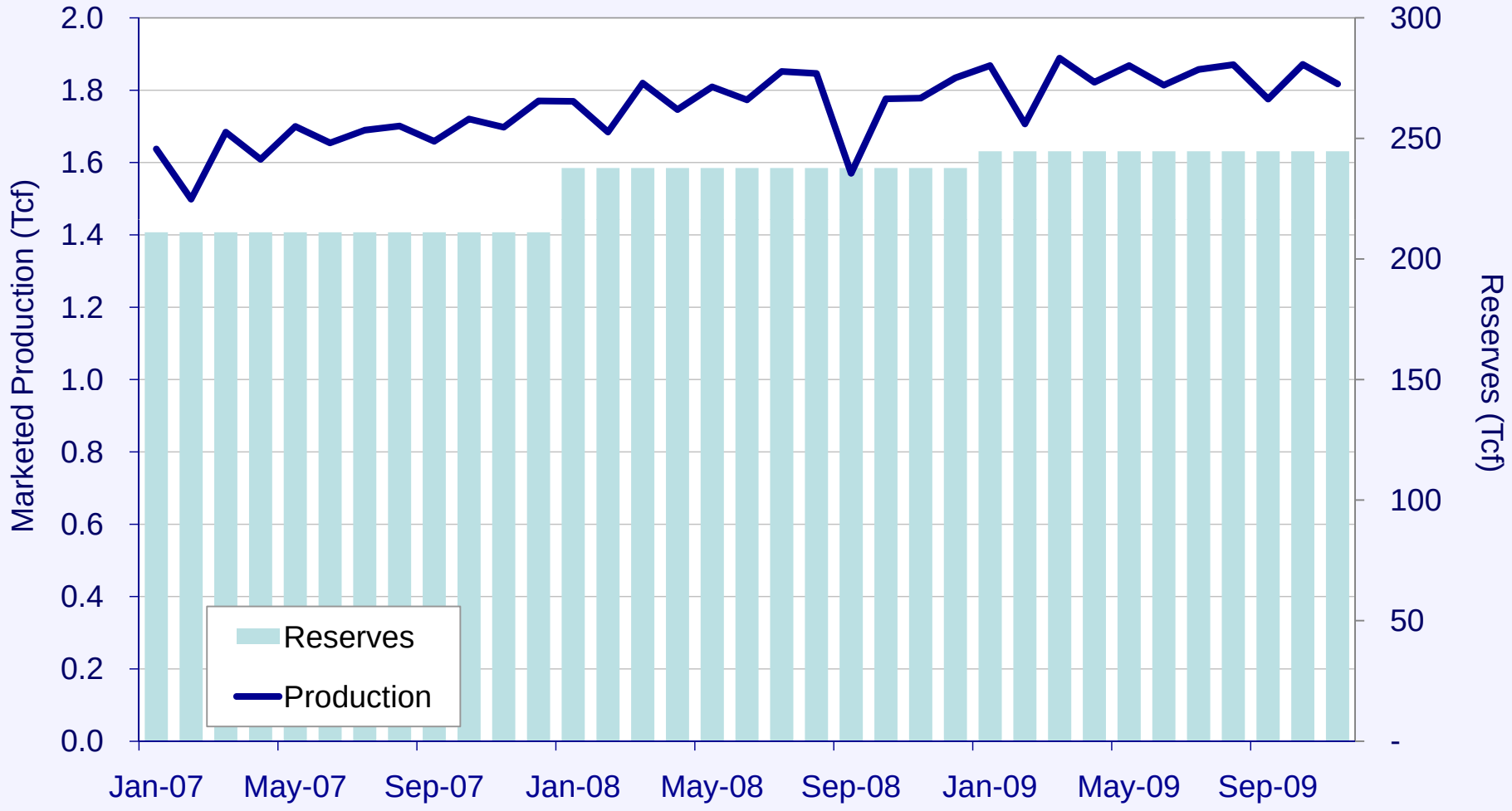
U.S. Crude Oil Production and Proved Reserves
January 2007 to Present

Impressive natural gas production increases, driven by deepwater, and increasingly by unconventional resources.



Source: Energy Information Administration, U.S. Department of Energy

Market Disruption

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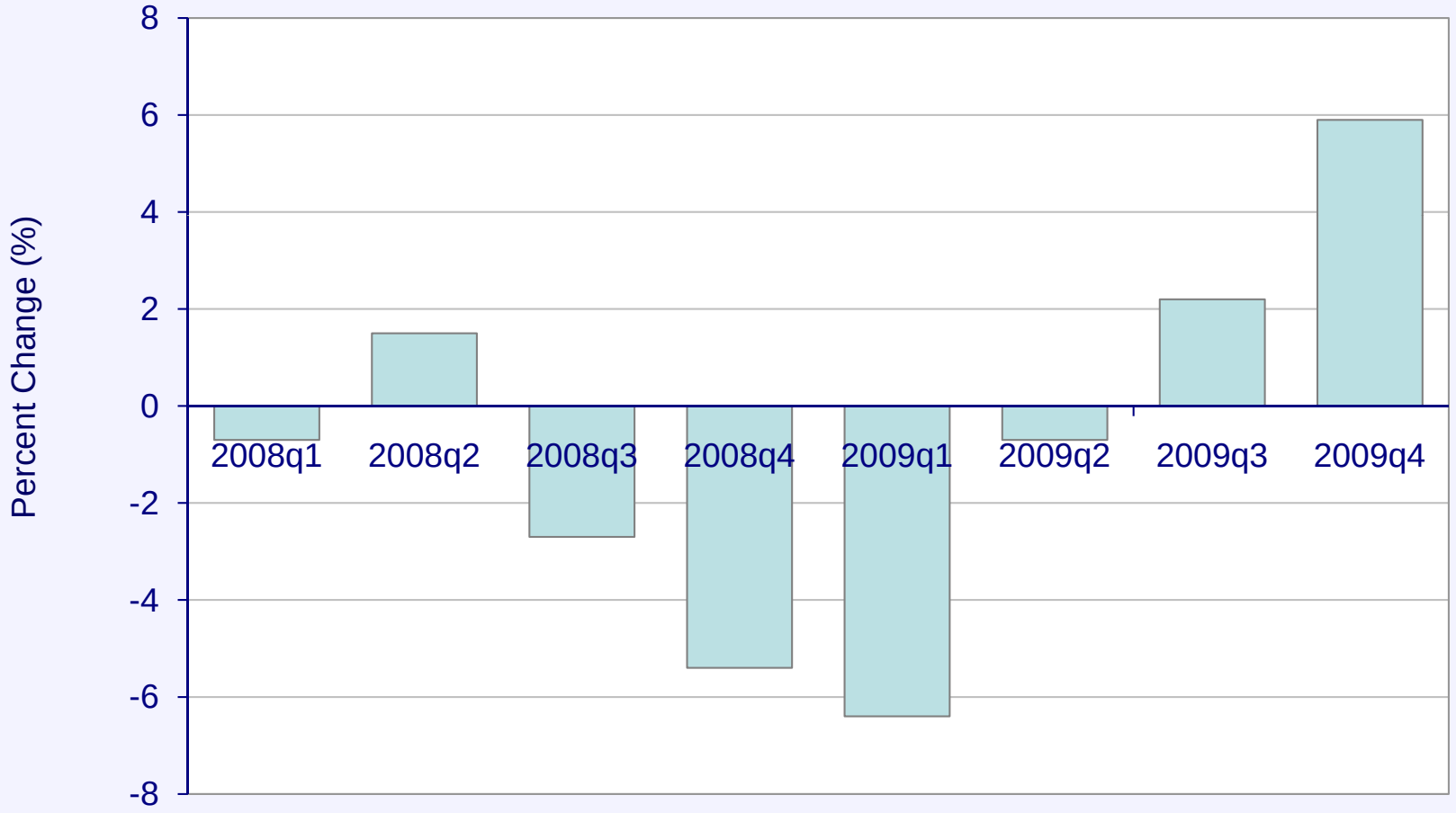
Percent Change in Quarterly GDP

U.S. economy has has technically been in recession since the beginning of 2008.



Source: Bureau of Economic Analysis, U.S. Department of Commerce.

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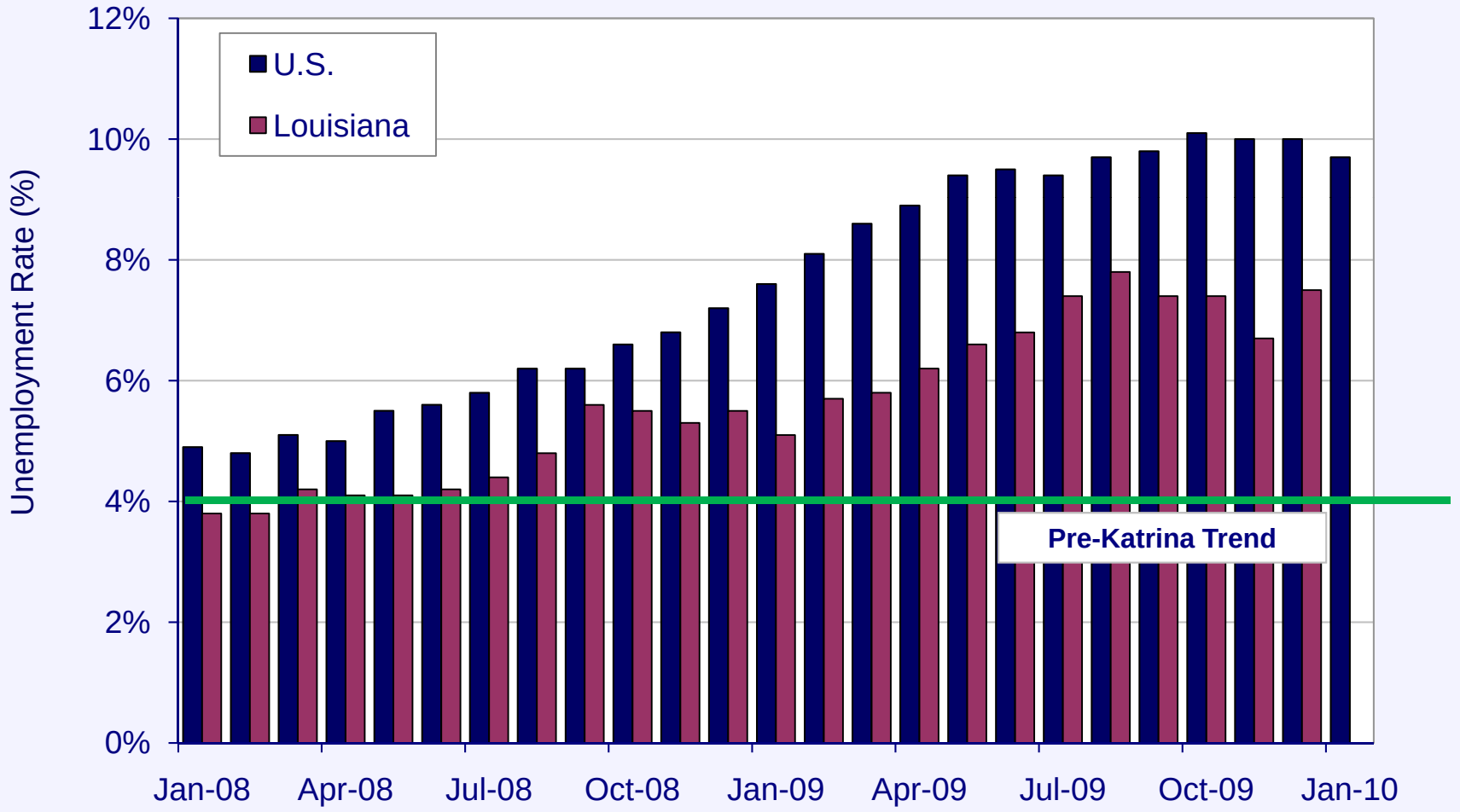
Unemployment Rate
U.S. and Louisiana

Louisiana employment compares well with national average on aggregate basis.



Source: Bureau Labor Statistics, U.S. Department of Labor.

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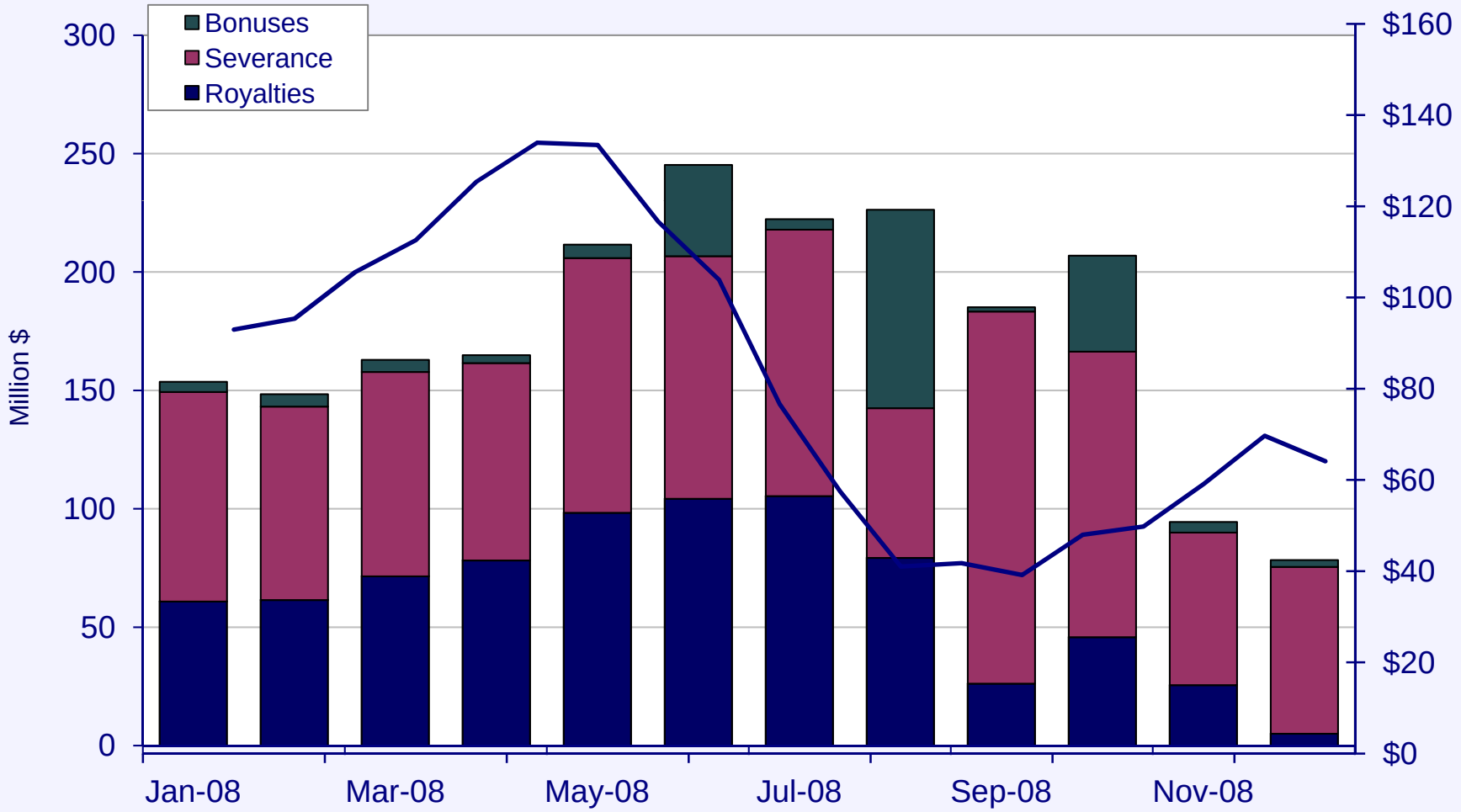
Trends in Mineral Revenues

State mineral revenues, which were growing at rapid rate, have fallen off considerably due to energy price decreases.



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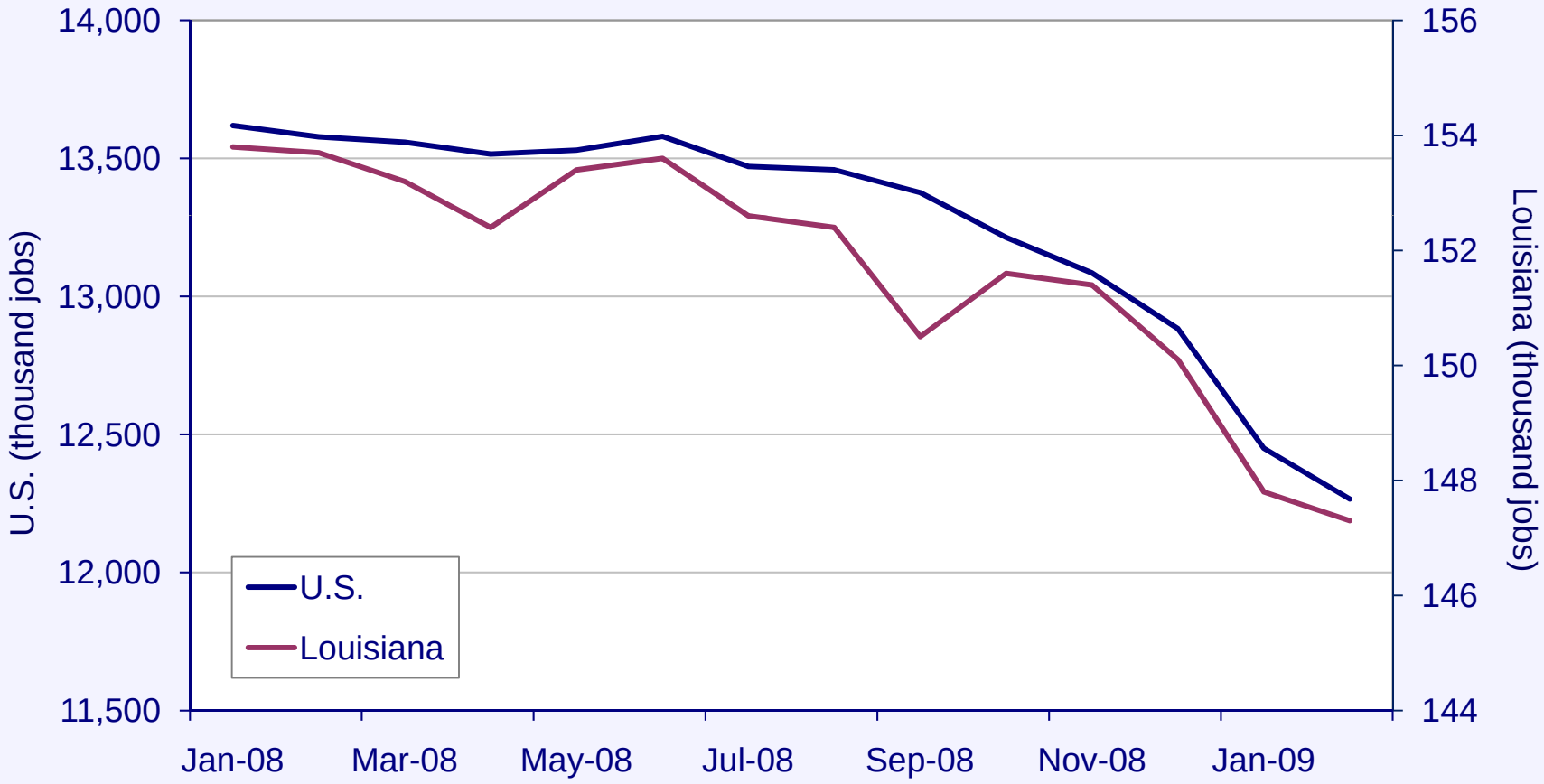
Manufacturing Employment
U.S. and Louisiana

However, manufacturing trends have been disturbing and following similar trends to the national averages.



Source: Bureau Labor Statistics, U.S. Department of Labor.

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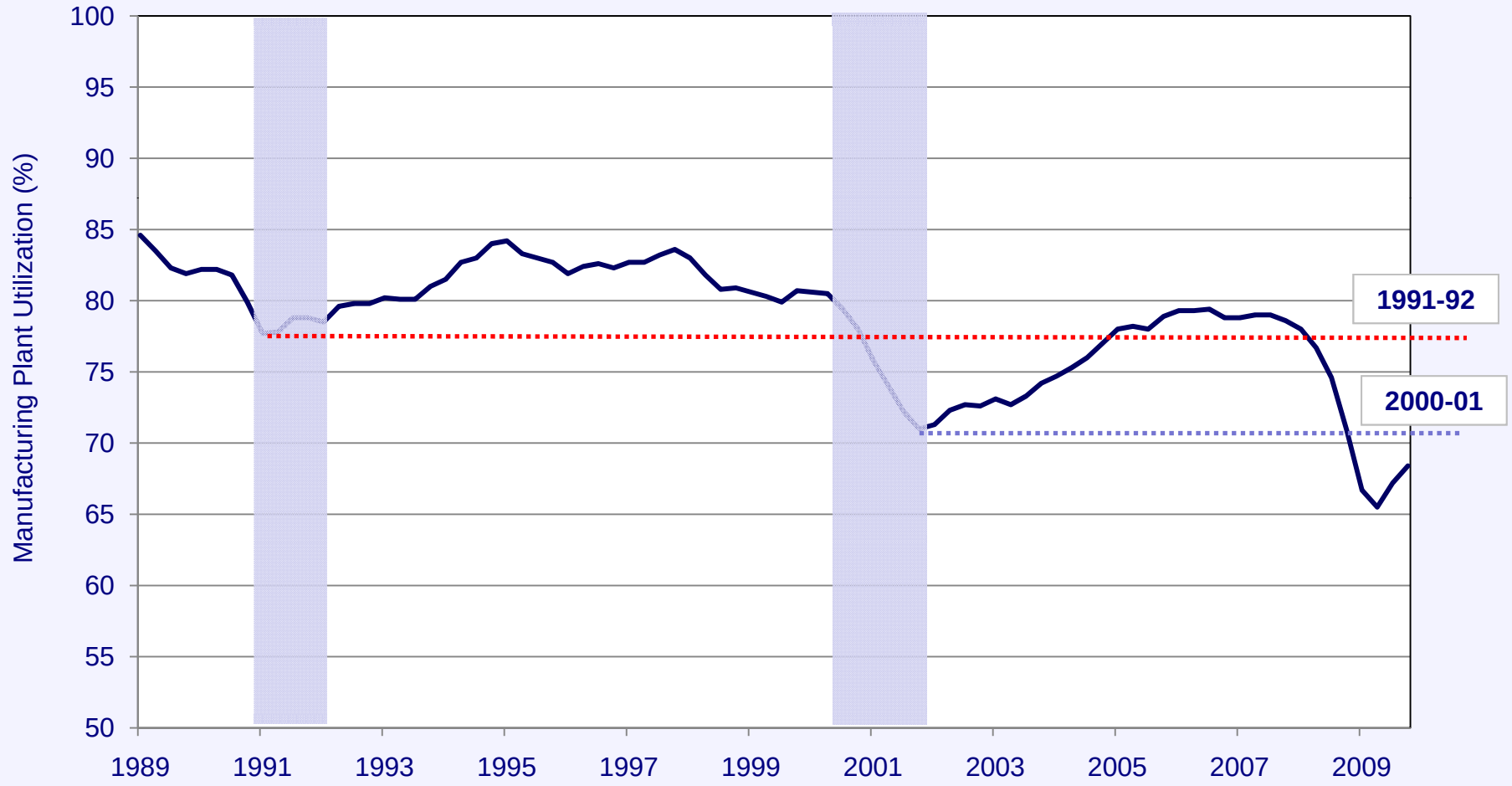
Chemical Industry Capacity Utilization

Manufacturing industry utilization considerably lower than last two recessions, despite recent upturn.



Source: United States Federal Reserve Bank

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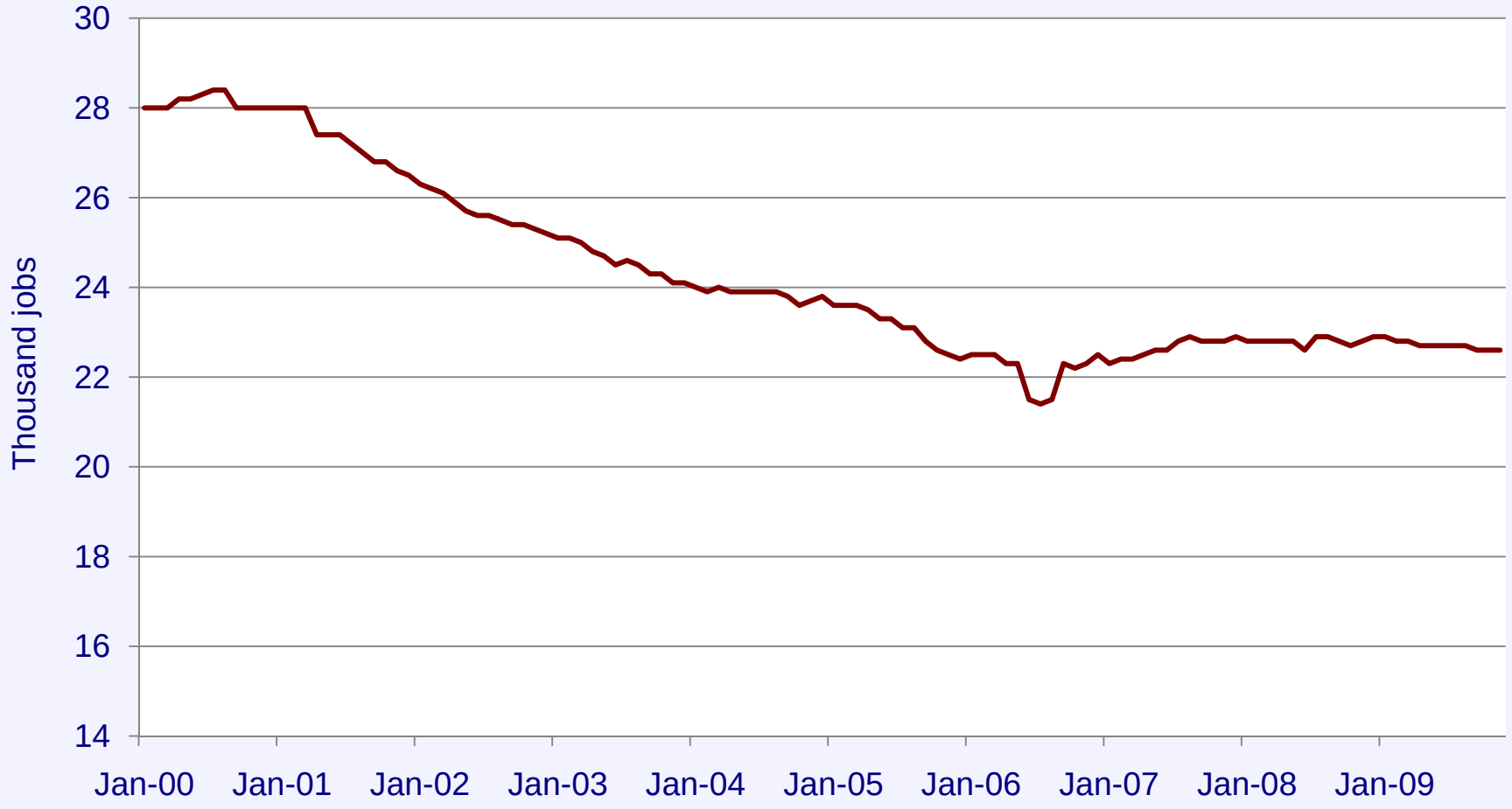
Louisiana Chemical Industry Employment

Louisiana chemical industry has stabilized since last recession, and has been little impacted by the current recession from employment perspective.



Source: Louisiana Workforce Commission.

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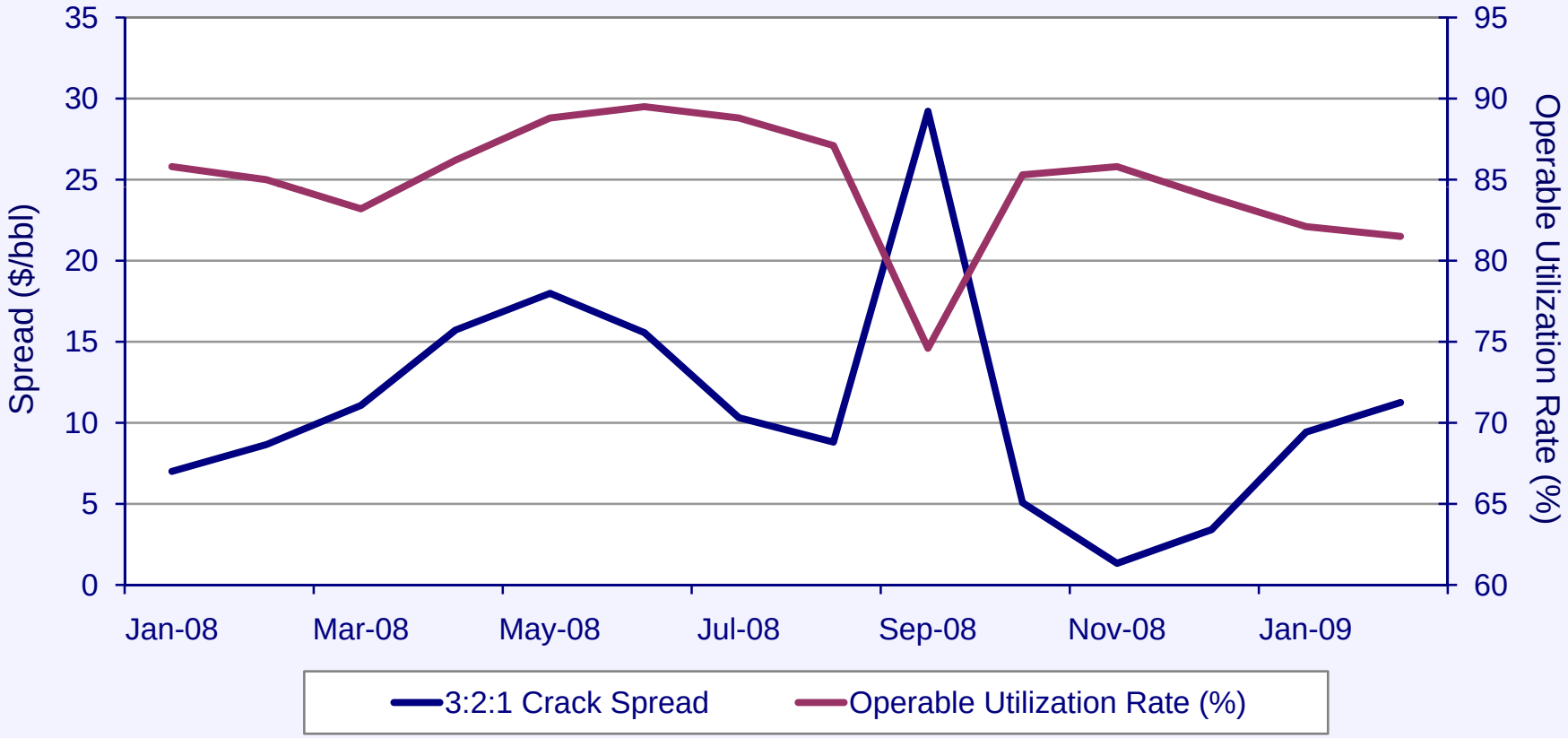
U.S. Refinery Crack Spreads and Capacity Utilization

Refining is showing signs of contraction due to lower profits and demand.



Source: Energy Information Administration, U.S. Department of Energy

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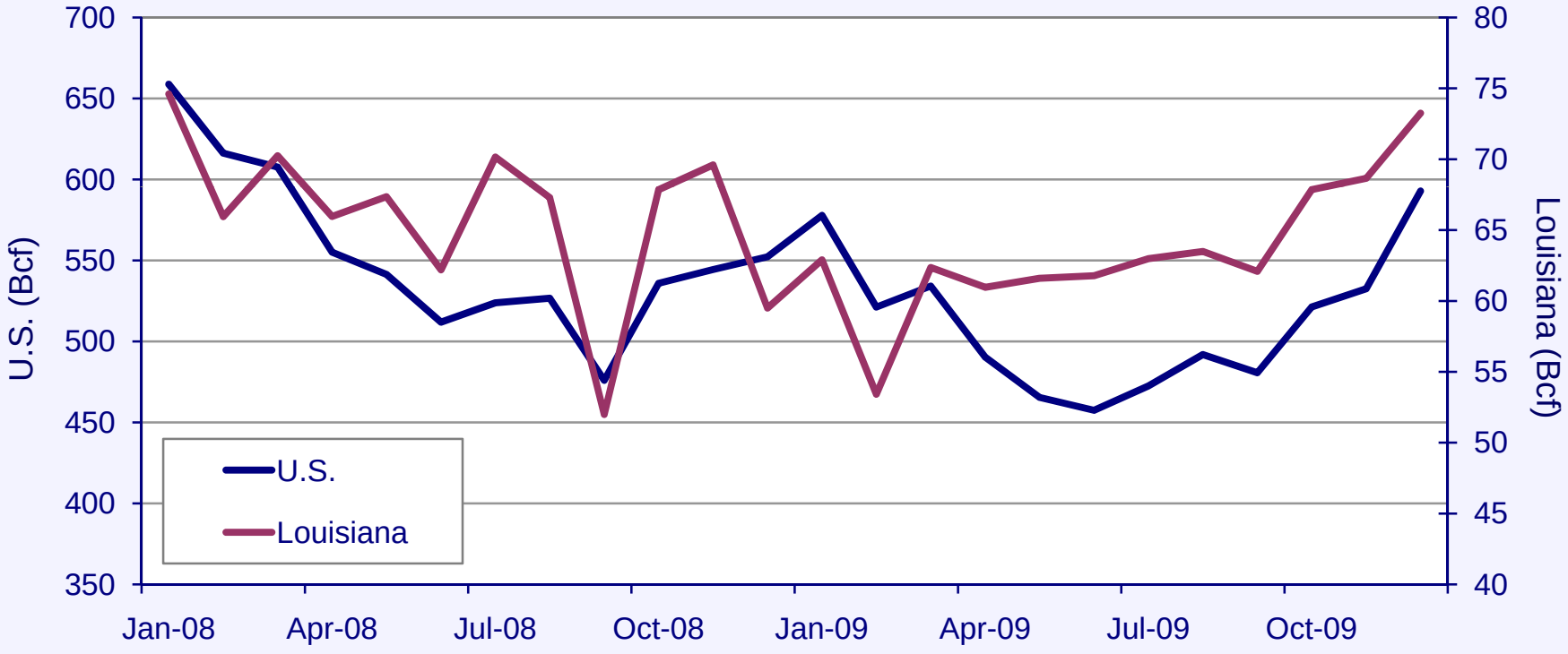
Industrial Natural Gas Consumption

Industrial gas demand starting to rebound – could be signs of recovery.



Source: Energy Information Administration, U.S. Department of Energy

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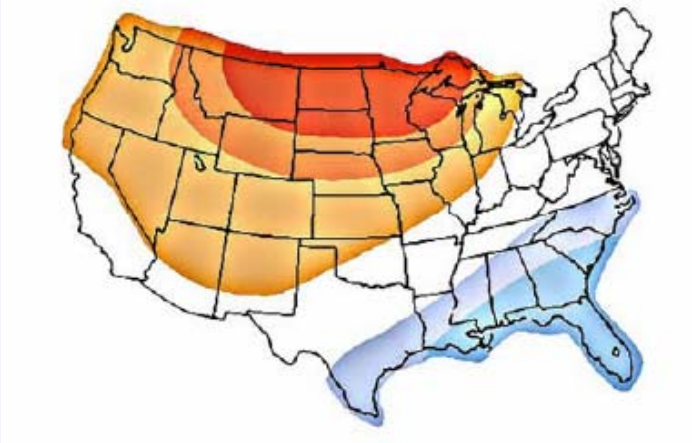
Winter Demand: Winter Season (through February)

NOAA Winter of 2010 Projection

1.3 percent warmer than last year

0.6 percent warmer than 30-year average

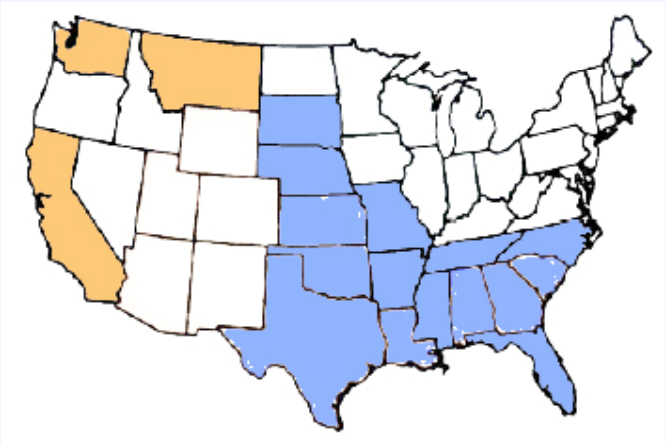


3,573 Heating Degree Days

NOAA Observed Heating Degree Days

3 percent higher than last year

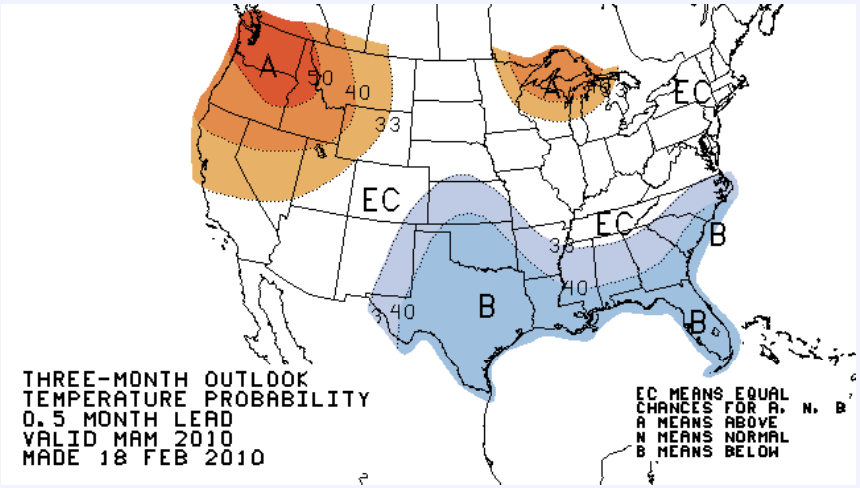
2 percent higher than 30-year average



3,447 Heating Degree Days YTD
(End of February)

Five percent or more higher than Normal HDDs.

Five percent or more lower than Normal HDDs.



NOAA March, April, May Outlook

Source: NOAA

Public Policy Challenges

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New Changes in Natural Gas and Oil Taxes

The IPAA estimates that taken together, these tax changes would strip over $30 billion from US natural gas and oil production investment.

Intangible Drilling and Development Costs (IDC) – Tax treatment designed to attract capital to natural gas and oil production. Eliminating this option would remove $3 billion that would have otherwise been invested in new U.S. production.

Percentage Depletion – Provides capital for independents and is important for marginal well operators. Removal is estimated to cost $8 billion in investment.

Geological and Geophysical (G&G) Amortization – Early recovery of G&G costs allows for more investment in finding new resources. Extending the amortization period would remove over $1 billion from efforts to find and develop new U.S. production.

Marginal Well Tax Credit – Countercyclical tax credit that creates a safety net for marginal wells during periods of low prices. Enacted in 2004, the marginal well tax credit has not been needed, but it remains a key element of support for U.S. production.

Enhanced Oil Recovery (EOR) Tax Credit – Designed to encourage oil production using technologies that are required after a well passes through its initial phase of production. Currently, the oil price threshold for the EOR tax credit has been exceeded and the oil value is considered adequate to justify EOR efforts. But, at lower prices EOR becomes uneconomic and these costly wells would be shutdown.

Manufacturing Tax Deduction – Another tax provision that provides capital to U.S. independent producers to invest in new production.

Excise Tax on GOM Production – Creating a new tax designed to add a $5 billion burden on U.S. offshore development will drive producers from the GOM, reducing new U.S. production of natural gas and oil.

Passive Loss Exception for Working Interests in Oil and Gas Properties – If, in the future, income/lossarising from the ownership of oil and natural gas working interests, is treated as passive income/loss, the primary reason for individuals to invest in oil and gas working interests would be significantly diminished.

Policies Affecting Economics: Taxes

- Repeal expensing of IDC ($4.1-7B). Option since tax code inception
- Repeal Sec. 199 for Oil and Gas ($10.8-13.3B)
- Repeal percentage depletion ($7.1-9B). Used for over a century to simplify investment cost recovery as mineral is produced
- Total exceeding $80 billion

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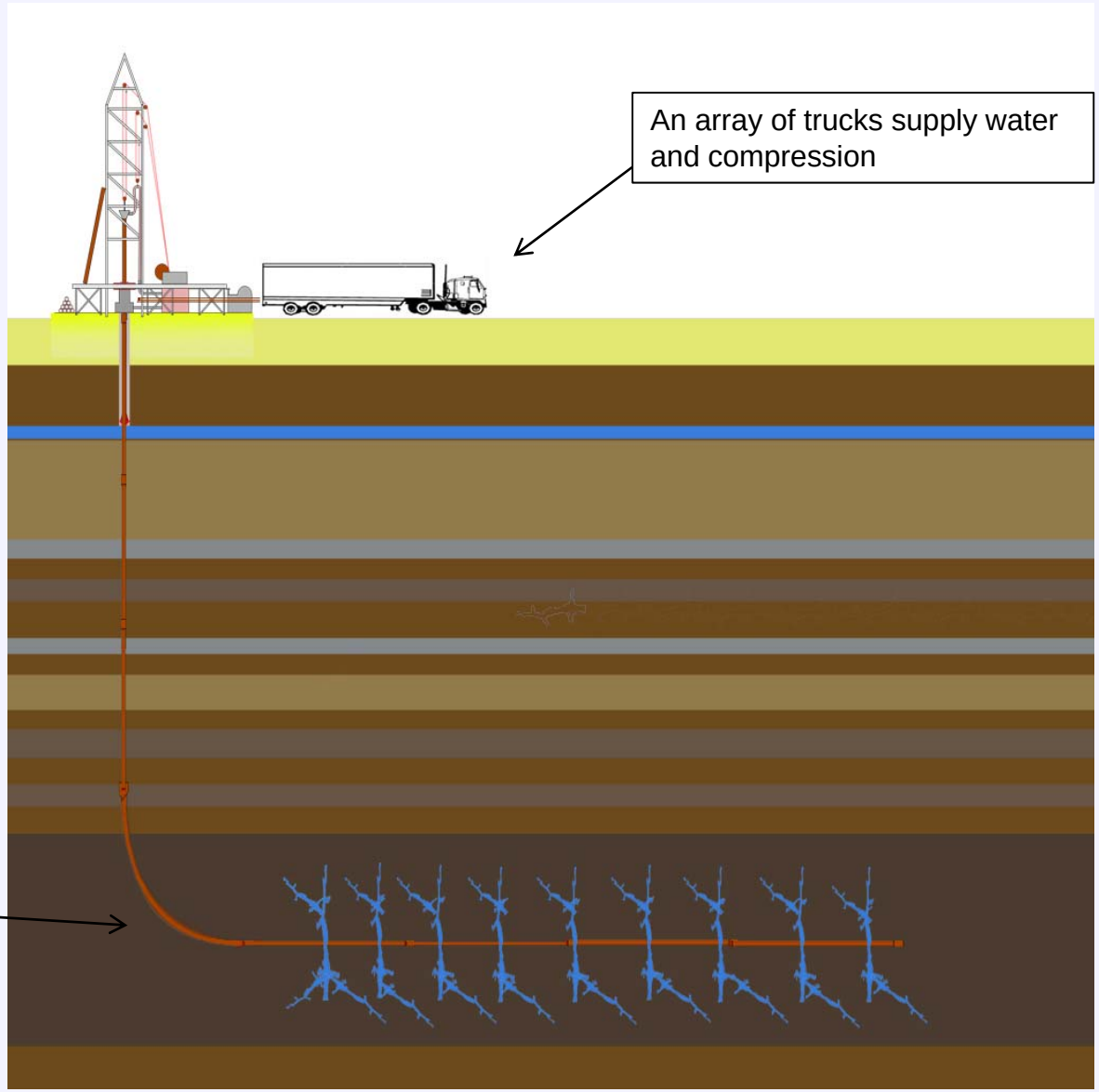
Unconventional Natural Gas: Hydrofracturing



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Estimated Effects of Regulating Hydraulic Fracturing

	2010	2012	2014
Change in Real GDP from Reference Case (Billion 2008 dollars)			
UIC Compliance	-22	-56	-84
Fluid Restrictions	-44	-115	-172
No Fracturing	-141	-255	-374
Change in Real GDP from Reference Case (Percent Change)			
UIC Compliance	-0.2%	-0.4%	-0.5%
Fluid Restrictions	-0.3%	-0.8%	-1.1%
No Fracturing	-1.0%	-1.7%	-2.3%
Change in Employment from Reference Case (thousand jobs)			
UIC Compliance	-140	-416	-635
Fluid Restrictions	-285	-859	-1,298
No Fracturing	-922	-1,859	-2,869
Change in Employment from Reference Case (Percent Change)			
UIC Compliance	-0.1%	-0.3%	-0.4%
Fluid Restrictions	-0.2%	-0.6%	-0.9%
No Fracturing	-0.7%	-1.3%	-2.0%

Source: IHS Global

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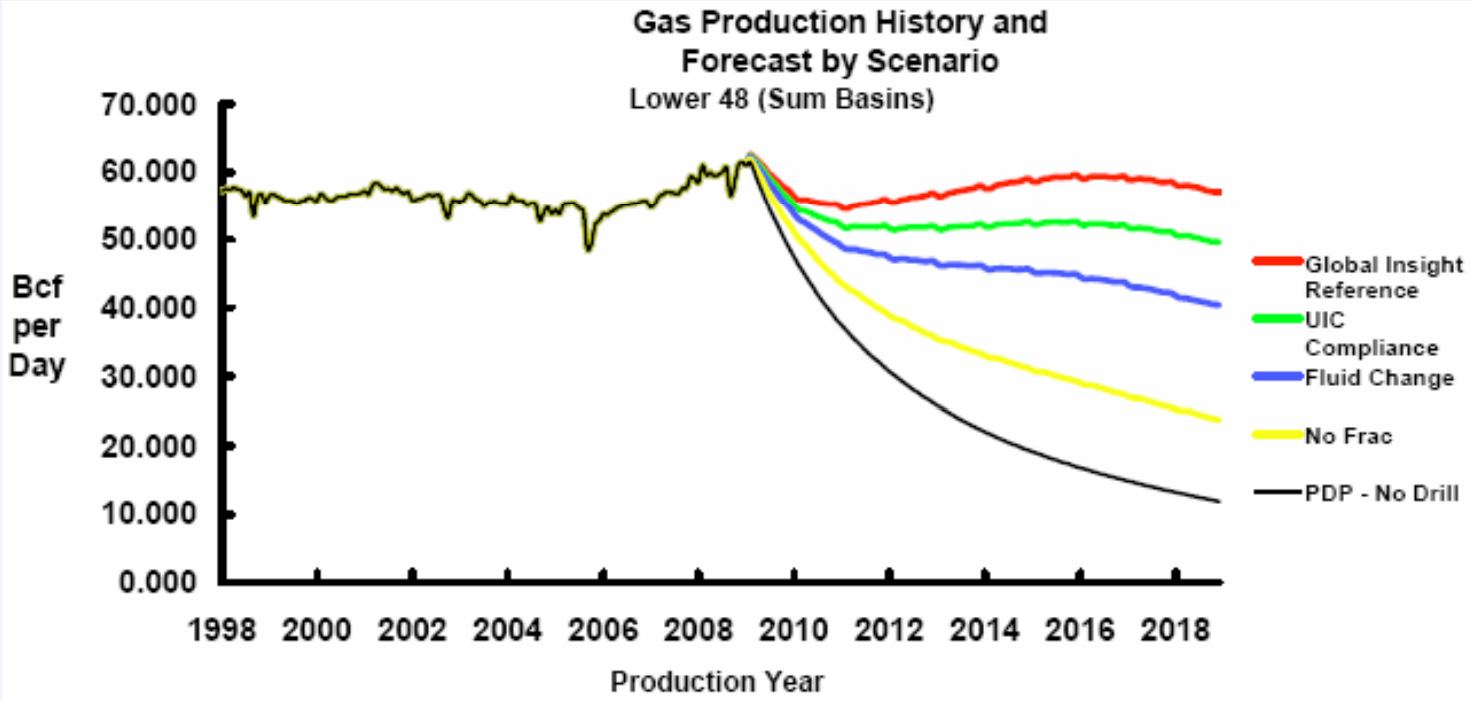
Estimated Effects of Regulating Hydraulic Fracturing



Change in Natural Gas Production (Trillion Cubic Feet)

	2008	2014	Change From Reference Change	Percent Change
Global Insight Reference	20.9	20.4		
UIC Compliance		18.3	-2.1	-10%
Fluid Change		16	-4.4	-22%
No Fracturing		11.3	-9.1	-45%
No Drilling		7.2	-13.2	-65%

Source: IHS Global

Climate Change and Clean Energy

Method	Description	Challenges
Credits & Offsets	Initially allocated/auctioned credits and new offsets developed from mitigation projects	Efficiency of system (credits). Monitoring and verification of offsets.
Capital Investment	Carbon capture and storage	Expensive, uncertain, large supporting infrastructure and institutional support.
Fuel Switching	Nuclear, IGCC, natural gas	Expensive, longer-term investments, questionable development realization (cost, scope, reliability).
Renewables	Biomass, wind, solar, geothermal, hydro	Expensive, varying reliability, uncertainty (cost recovery)
Efficiency Improvements	Automotive Appliances Building measures Demand-Side Mgt. Demand Response	Good short run opportunities, significant, but limited in scope. Also require investment to reach pay-back.

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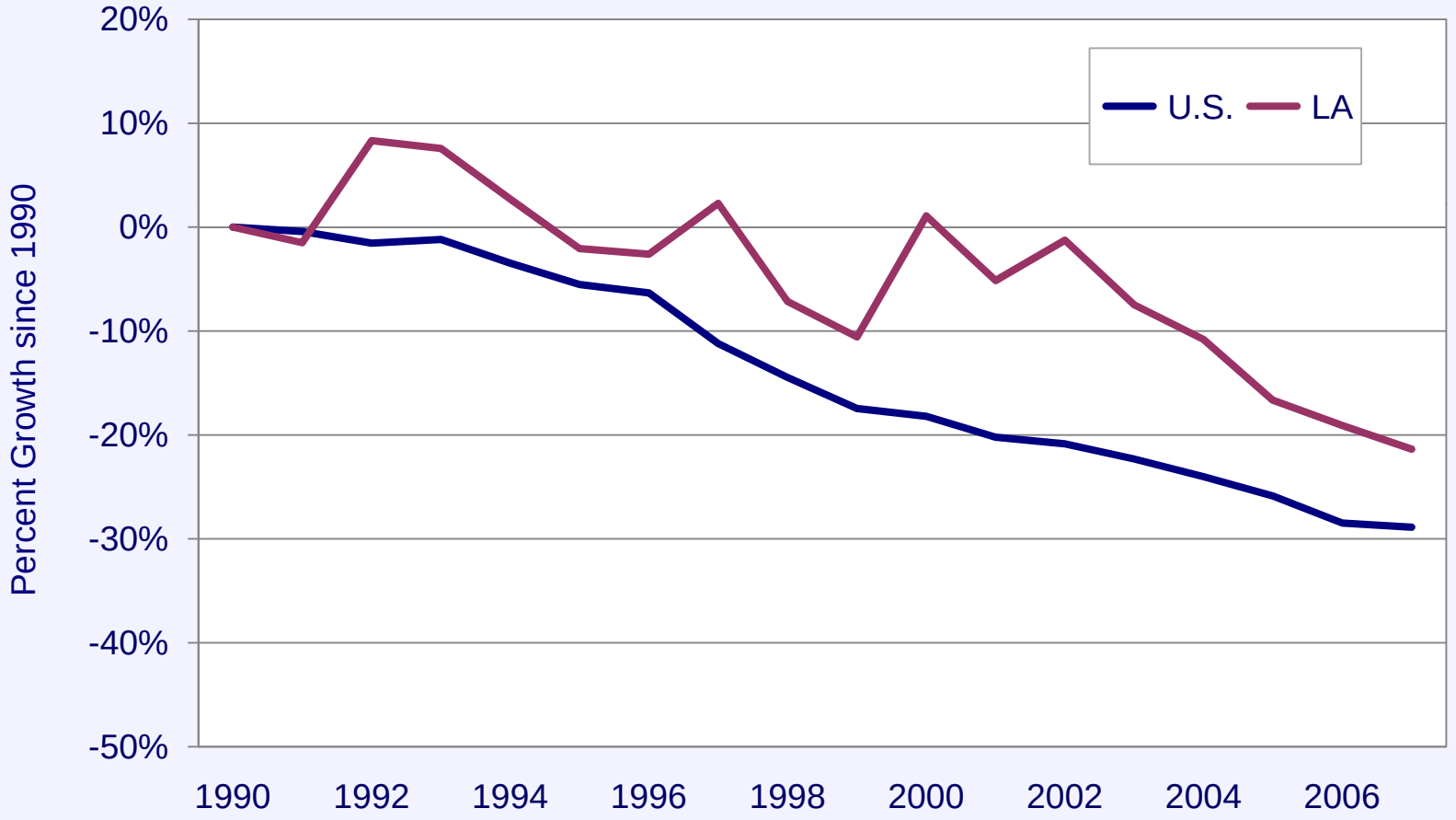
Gross CO2E per GDP and GSP
U.S. and Louisiana

Louisiana has been following emissions reduction trends similar to overall U.S. since 1990.



Source: U.S. Environmental Protection Agency; and Bureau of Economic Analysis, U.S. Department of Commerce.

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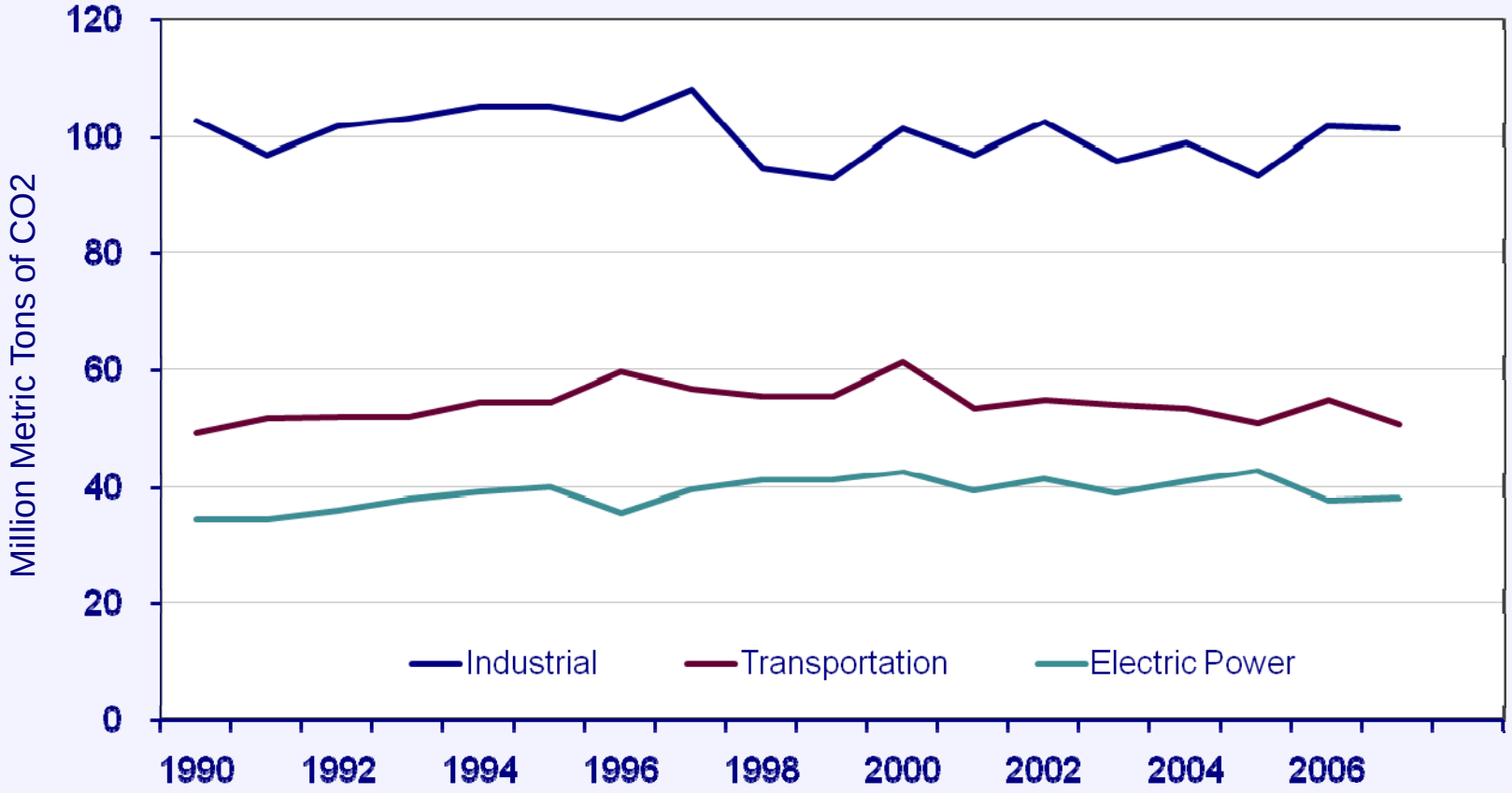
Louisiana CO2 Emissions per Sector 1980 - 2007

Louisiana carbon emissions have been driven primarily by moderate amounts of growth in transportation and electric power generation sectors.



Source: U.S. Environmental Protection Agency.

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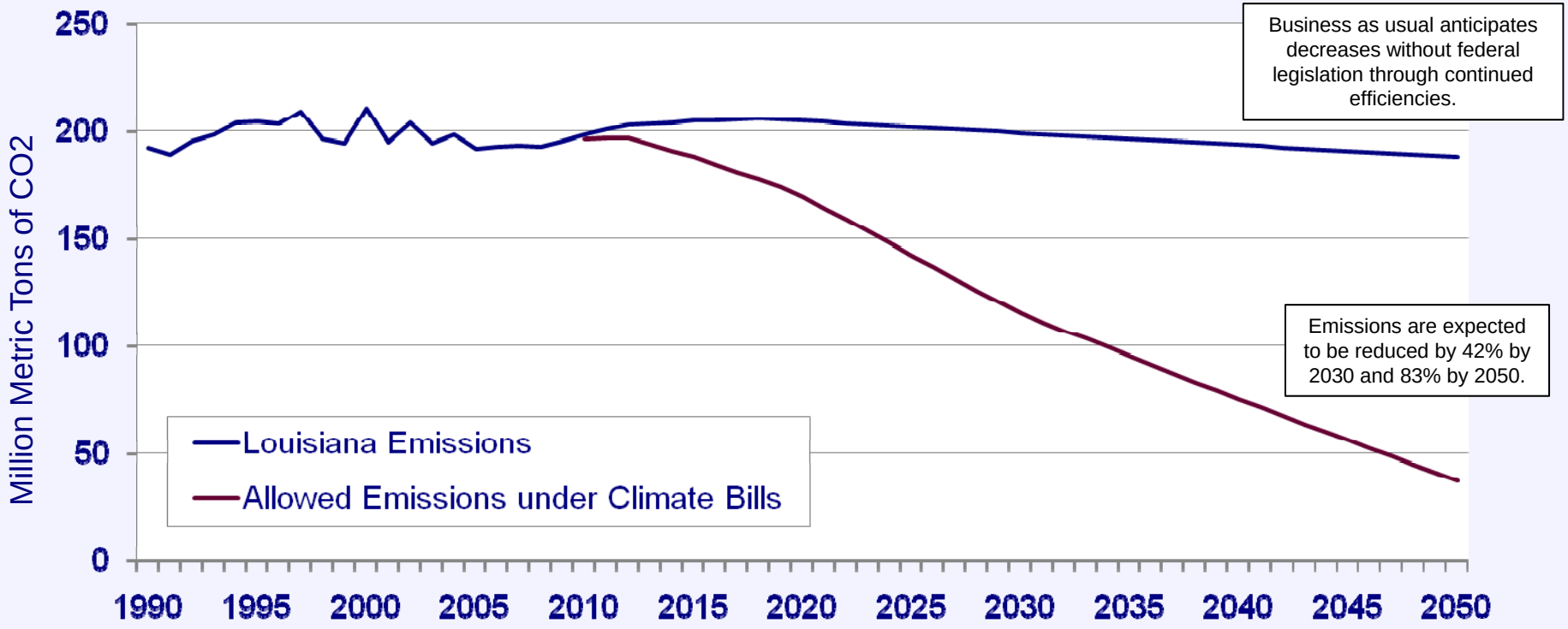
Historic and Projected Louisiana Emissions

Climate change regulation/legislation would require a considerable reduction in emissions over the next 30 years.



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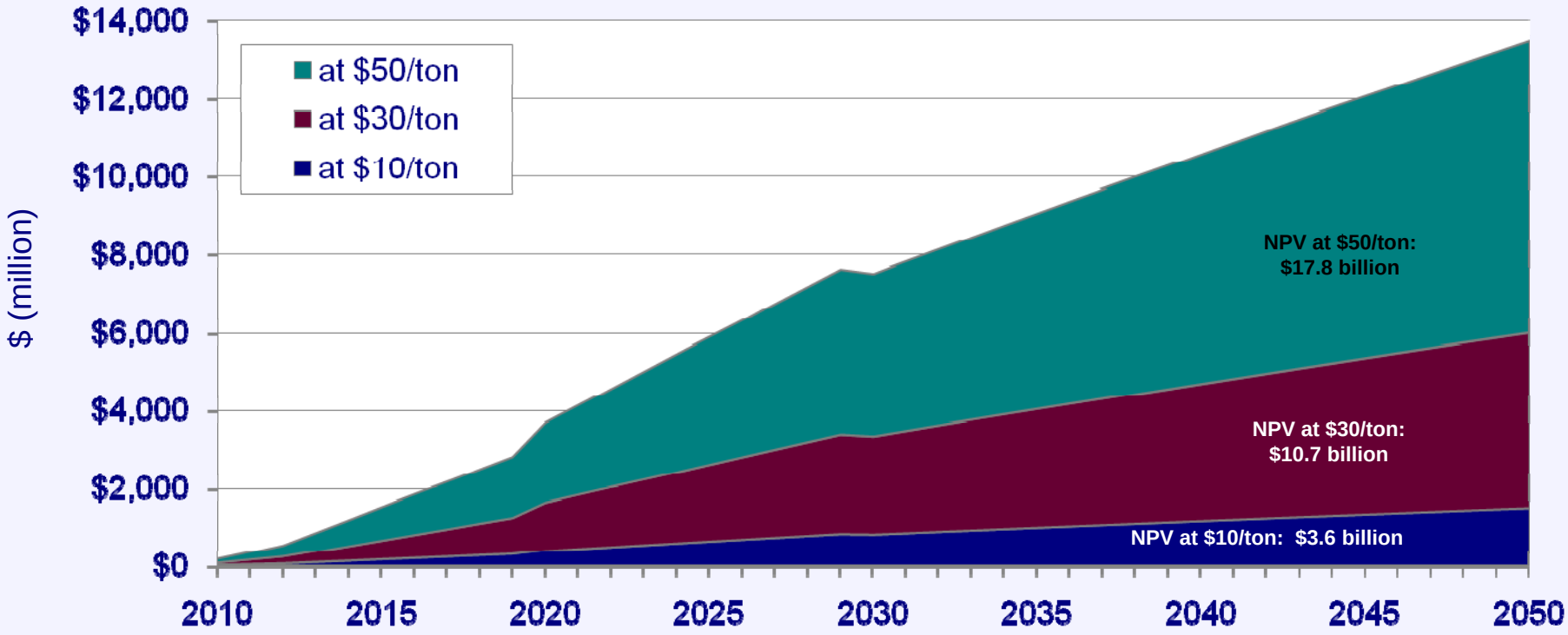
Estimated Cost of Emission Credit Deficits Louisiana Total

Climate change regulation/legislation would require a considerable investment in mitigation technologies or the purchase of compliance credits.



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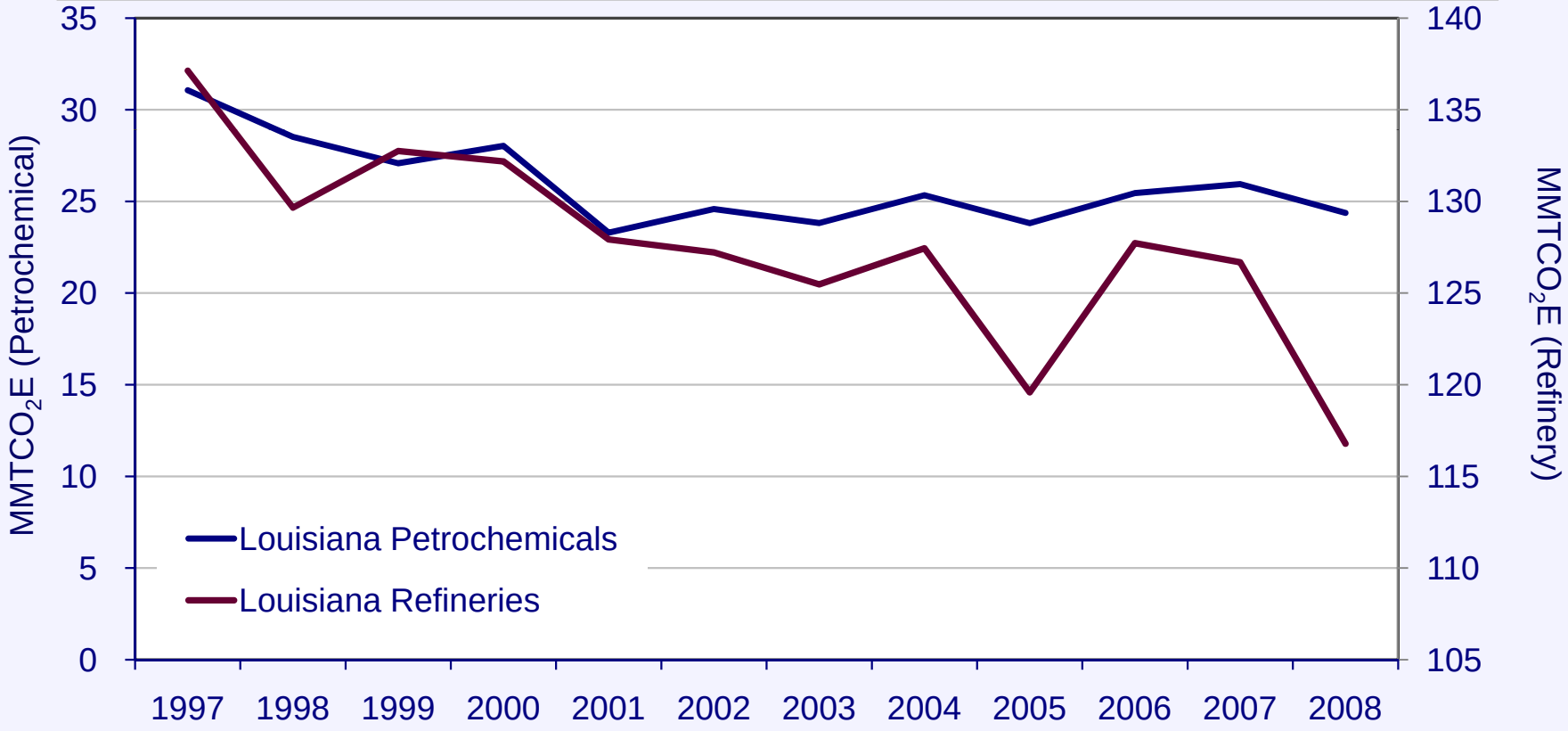
Historic CO2 Emissions Total Louisiana

Total emissions from both petrochemical facilities and refineries are down from the mid-1990s.

Petrochem emissions relative constant since 2000.
Refinery emissions down since 2000.



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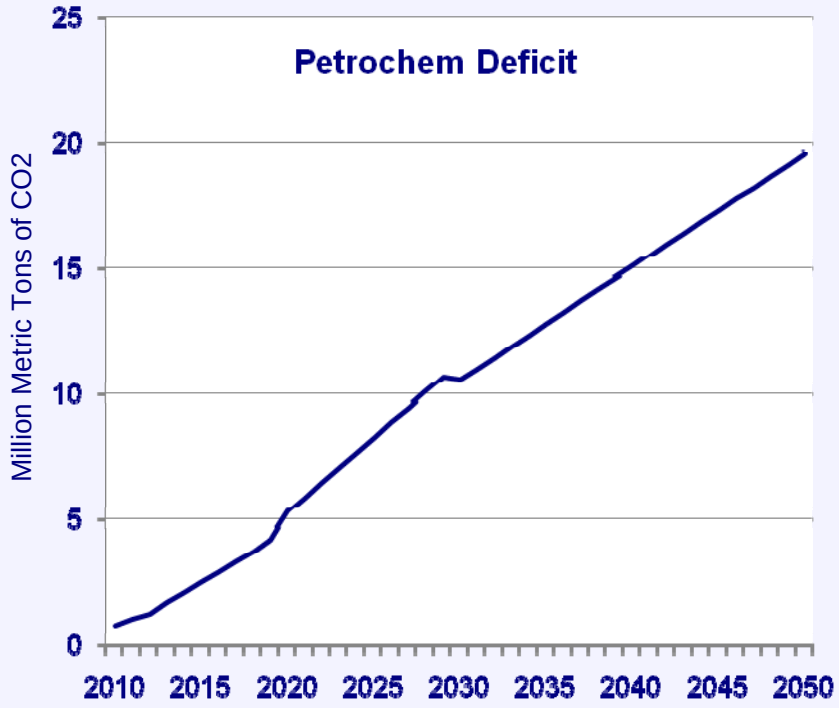
Projected Cost to Louisiana Petrochemical Plants

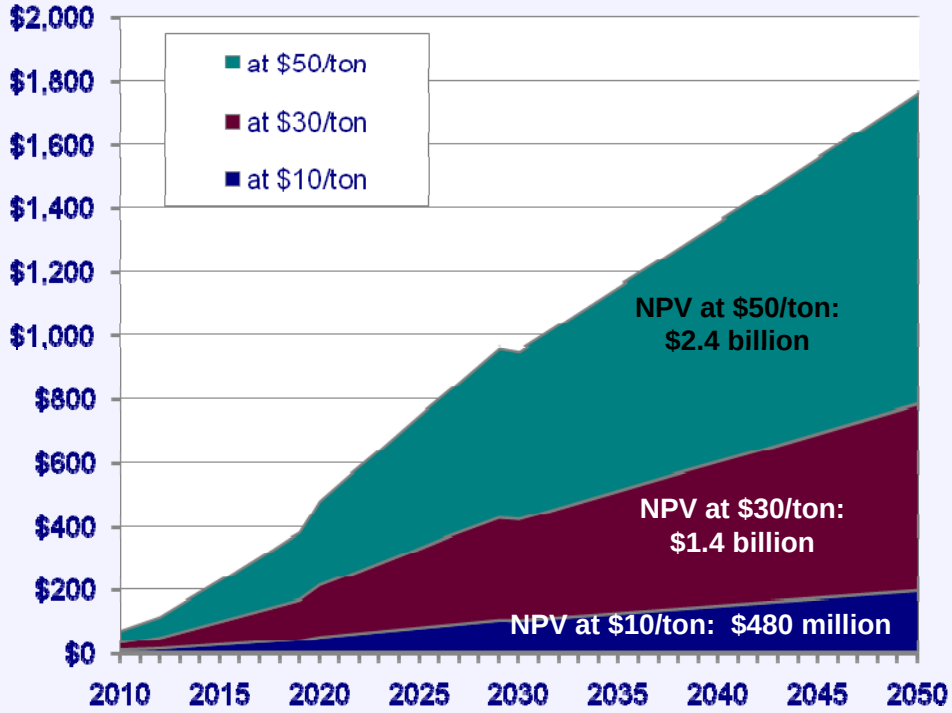
Business as usual projections suggest dramatically increasing emission deficits for Louisiana petrochemical companies. The NPV cost of compliance for this sector is estimated to be $1.4 billion at $30/ton emissions price.

Preliminary estimate, typical facility (@ $25/ton):

2010-2020: $0 to $15 million per year.

2020-2050: $15 to $50 million per year.





Note: assumes petrochemical emissions stay constant at 2008 levels.

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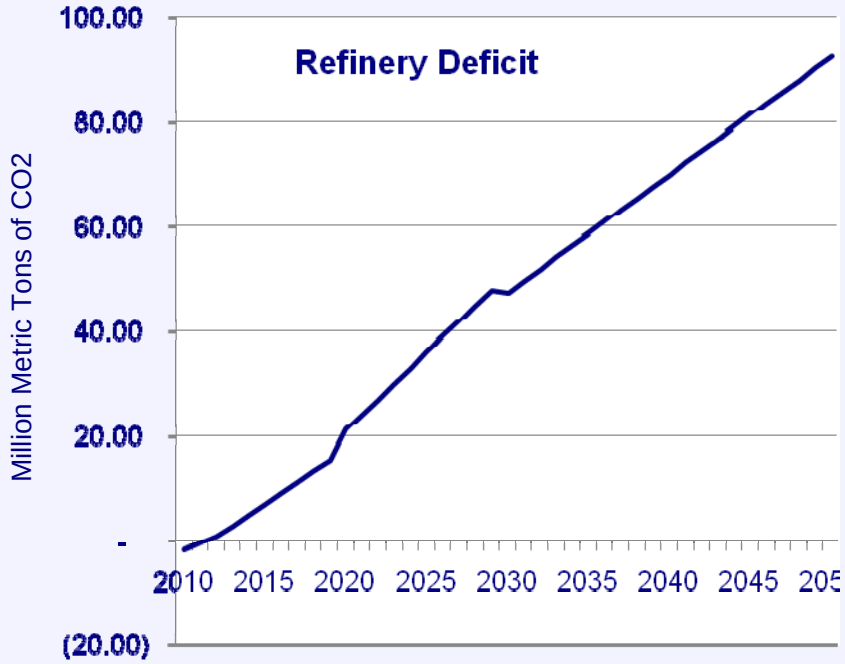
Projected Cost to Louisiana Refinery Plants

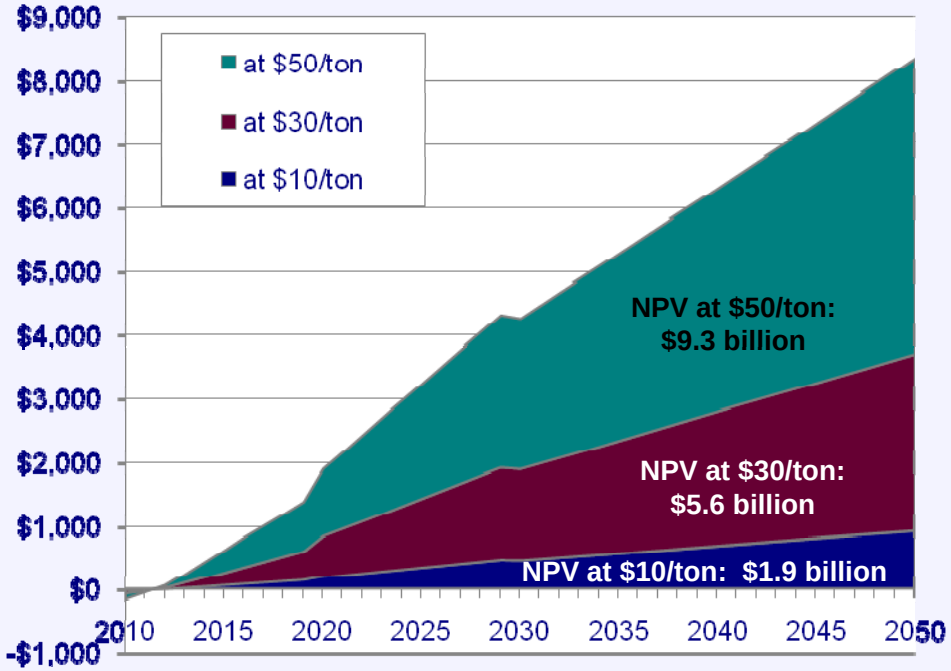
Business as usual projections suggest dramatically increasing emission deficits for Louisiana refineries. The NPV cost of compliance for this sector is estimated to be $5.6 billion at $30/ton emissions price.

Preliminary estimate, typical facility(@ $25/ton):

2010-2020: $50 to $200 million per year

2020-2050: $200 million to $1 billion per year.





Note: assumes refinery emissions stay constant at 2008 levels.

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Total CO2 Cost by Year and Utility Growth Case

Total compliance cost for Louisiana electric utilities could exceed $9.5 billion (NPV).

	Annual Abatement Costs (million $)									
	ELI	ENO	EGSI	CLECO	SWEPCO	MUNI	COGEN	IPP-COAL	IPP-GAS	STATE TOTAL
2012	$ 103.0	$ 21.2	$ 110.2	$ 119.5	$ 40.3	$ 37.9	$ 151.2	$ 286.9	$ 32.9	$903.10
2015	$ 114.9	$ 23.8	$ 124.1	$ 134.6	$ 45.7	$ 42.7	$ 183.1	$ 308.7	$ 36.2	$1,013.87
2020	$ 178.1	$ 29.1	$ 149.4	$ 161.7	$ 89.1	$ 52.0	$ 208.5	$ 347.5	$ 42.9	$1,258.36
2025	$ 201.4	$ 62.0	$ 185.6	$ 201.7	$ 104.1	$ 61.8	$ 238.0	$ 383.7	$ 50.4	$1,488.73
2030	$ 262.8	$ 78.4	$ 211.3	$ 254.8	$ 120.0	$ 69.9	$ 272.3	$ 423.6	$ 59.1	$1,752.26
2035	$ 317.8	$ 95.6	$ 238.2	$ 290.7	$ 137.3	$ 77.9	$ 331.7	$ 467.7	$ 67.8	$2,024.91
2040	$ 375.4	$ 116.6	$ 267.8	$ 332.4	$ 197.6	$ 86.7	$ 371.0	$ 516.4	$ 78.0	$2,341.98
2045	$ 433.9	$ 137.8	$ 295.7	$ 372.3	$ 223.5	$ 96.3	$ 415.5	$ 570.2	$ 90.0	$2,635.13
2050	$ 487.1	$ 153.7	$ 326.5	$ 411.1	$ 253.3	$ 106.8	$ 465.8	$ 629.5	$ 104.0	$2,937.80
NPV:	$1,404.19	$395.16	$1,121.34	$1,320.04	$677.51	$373.20	$1,546.10	$2,364.10	$327.57	$9,529.21

Note: Assumes credit cost of $15/ton (escalated by 2% per year).

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Residential Annual Bill Impact Growth Case

On average, Louisiana households can expect as much as a 30 percent increase in their electric bills from climate change legislation (by 2050). Those impacts will not be proportional throughout the state and will depend on the fuel mix of the serving utility.

	Annual Average Ratepayer Impacts (Bill Impact)									
	ELI	ENO	EGSI	CLECO	SWEPCO	MUNI	COGEN	IPP-COAL	IPP-GAS	STATE AVG
	($/bill)									
2012	$56.99	$46.12	$90.82	$207.73	$111.34	$124.90	n.a.	$577.16	n.a.	$177.61
2015	$63.58	$51.78	$102.28	$233.98	$126.26	$140.72	n.a.	$621.02	n.a.	$199.38
2020	$98.55	$63.31	$123.13	$281.08	$246.16	$171.37	n.a.	$699.07	n.a.	$247.47
2025	$111.44	$134.88	$152.96	$350.62	$287.61	$203.67	n.a.	$771.90	n.a.	$292.78
2030	$145.41	$170.55	$174.14	$442.92	$331.53	$230.36	n.a.	$852.16	n.a.	$344.60
2035	$175.84	$207.97	$196.31	$505.33	$379.33	$256.73	n.a.	$940.88	n.a.	$398.19
2040	$207.71	$253.66	$220.71	$577.81	$545.93	$285.73	n.a.	$1,038.85	n.a.	$460.57
2045	$240.08	$299.77	$243.70	$647.17	$617.48	$317.36	n.a.	$1,147.08	n.a.	$518.26
2050	$269.52	$334.36	$269.08	$714.62	$699.81	$351.97	n.a.	$1,266.38	n.a.	$577.77
Percent Increase on a Typical Bill										
2015	3.8%	3.1%	6.1%	13.8%	7.4%	8.3%	n.a.	38.5%	n.a.	11.8%
2020	4.2%	3.4%	6.7%	15.3%	8.3%	9.2%	n.a.	40.6%	n.a.	13.0%
2025	6.3%	4.1%	7.9%	18.0%	15.8%	11.0%	n.a.	44.8%	n.a.	15.9%
2030	7.0%	8.5%	9.6%	22.0%	18.1%	12.8%	n.a.	48.5%	n.a.	18.4%
2035	9.0%	10.5%	10.7%	27.3%	20.4%	14.2%	n.a.	52.5%	n.a.	21.2%
2040	10.6%	12.6%	11.9%	30.5%	22.9%	15.5%	n.a.	56.8%	n.a.	24.0%
2045	12.3%	15.0%	13.1%	34.2%	32.3%	16.9%	n.a.	61.5%	n.a.	27.3%
2050	13.9%	17.4%	14.1%	37.6%	35.8%	18.4%	n.a.	66.6%	n.a.	30.1%

Note: Assumes credit cost of $15/ton (escalated by 2% per year). Assumes a typical bill is $1,500 per year (escalated by 2% per year)

Preliminary and Not for Citation

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Industrial Annual Bill Impact Growth Case

The impact on Louisiana industry – from their power bills ALONE – will not be as significant as the impacts to residential customers since most industrial plants are served by natural gas-fired utilities or have their own gas fired generation units.

	Annual Average Ratepayer Impacts (Bill Impact)									
	ELI	ENO	EGSI	CLECO	SWEPCO	MUNI	COGEN	IPP-COAL	IPP-GAS	STATE AVG
	($/bill)									
2012	$5,042	$1,273	$10,338	$52,090	$2,957	$111	n.a.	$10,519	n.a.	$11,761
2015	$5,299	$1,351	$10,970	$55,278	$3,163	$118	n.a.	$10,666	n.a.	$12,407
2020	$7,443	$1,492	$11,958	$60,168	$5,586	$130	n.a.	$10,876	n.a.	$13,950
2025	$7,622	$2,885	$13,455	$67,952	$5,913	$140	n.a.	$10,876	n.a.	$15,549
2030	$9,008	$3,304	$13,872	$77,779	$6,170	$144	n.a.	$10,876	n.a.	$17,308
2035	$9,866	$3,647	$14,168	$80,372	$6,396	$145	n.a.	$10,876	n.a.	$17,924
2040	$10,556	$4,027	$14,427	$83,234	$8,336	$146	n.a.	$10,876	n.a.	$18,800
2045	$11,051	$4,313	$14,427	$84,436	$8,541	$147	n.a.	$10,876	n.a.	$19,113
2050	$11,236	$4,356	$14,427	$84,436	$8,767	$148	n.a.	$10,876	n.a.	$19,178
Percent Increase on a Typical Bill										
2012	5.0%	1.3%	10.3%	52.1%	3.0%	0.1%	n.a.	10.5%	n.a.	11.8%
2015	5.2%	1.3%	10.8%	54.2%	3.1%	0.1%	n.a.	10.5%	n.a.	12.2%
2020	7.2%	1.4%	11.5%	57.8%	5.4%	0.1%	n.a.	10.5%	n.a.	13.4%
2025	7.2%	2.7%	12.7%	64.0%	5.6%	0.1%	n.a.	10.2%	n.a.	14.7%
2030	8.3%	3.1%	12.8%	71.9%	5.7%	0.1%	n.a.	10.0%	n.a.	16.0%
2035	8.9%	3.3%	12.8%	72.8%	5.8%	0.1%	n.a.	9.9%	n.a.	16.2%
2040	9.4%	3.6%	12.8%	73.9%	7.4%	0.1%	n.a.	9.7%	n.a.	16.7%
2045	9.6%	3.8%	12.6%	73.5%	7.4%	0.1%	n.a.	9.5%	n.a.	16.6%
2050	9.6%	3.7%	12.3%	72.1%	7.5%	0.1%	n.a.	9.3%	n.a.	16.4%

Note: Assumes credit cost of $15/ton (escalated by 2% per year). Assumes a typical bill is $100,000 per year (escalated by 2% per year)

Preliminary and Not for Citation

Energy Opportunities

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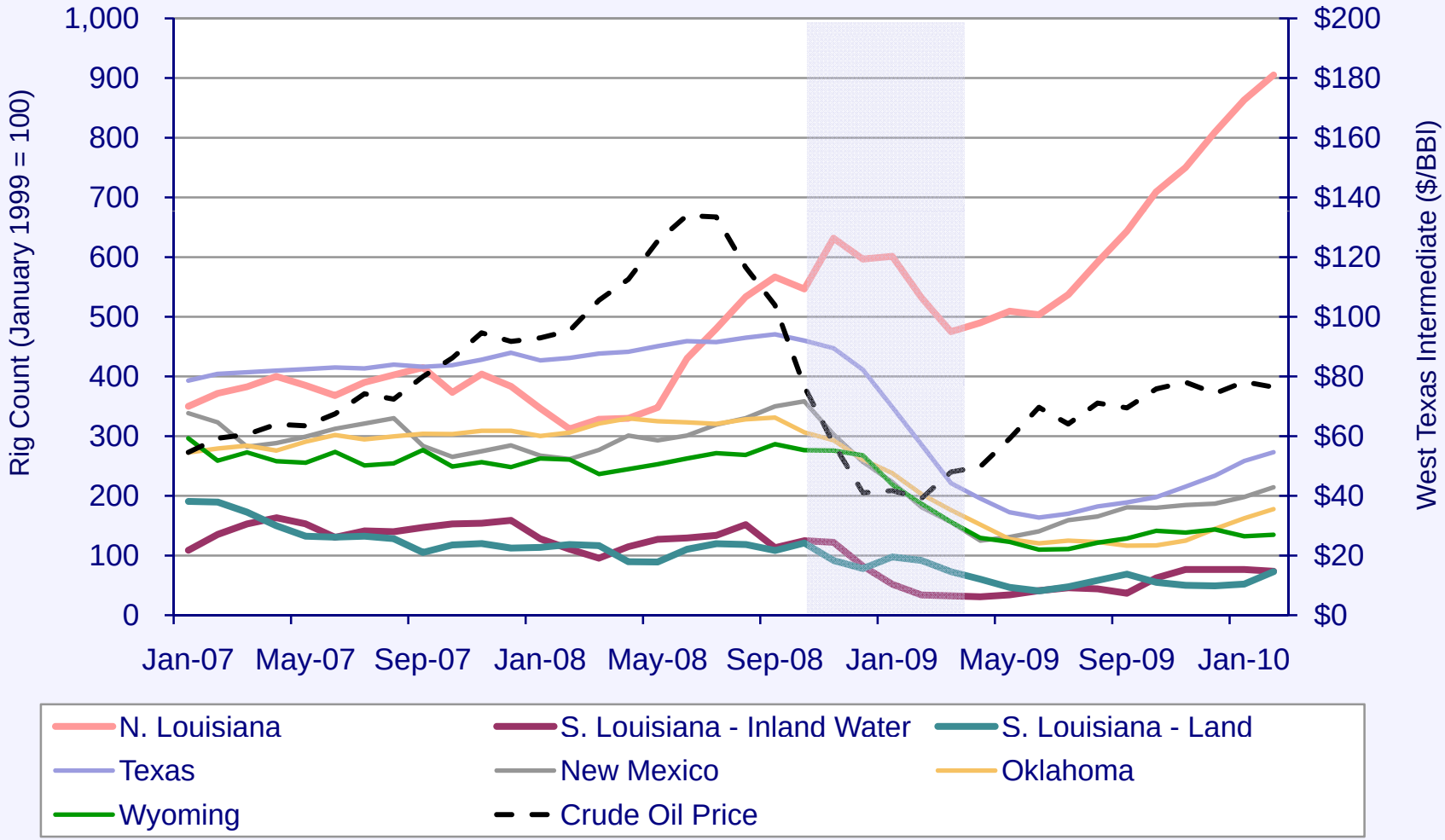
Rig Count and Crude Oil Price
(Each State Measured Relative to 1999 Activity)

North Louisiana has been the shining opportunity in the industry during the course of the recent price downturn/correction.



Source: Baker Hughes

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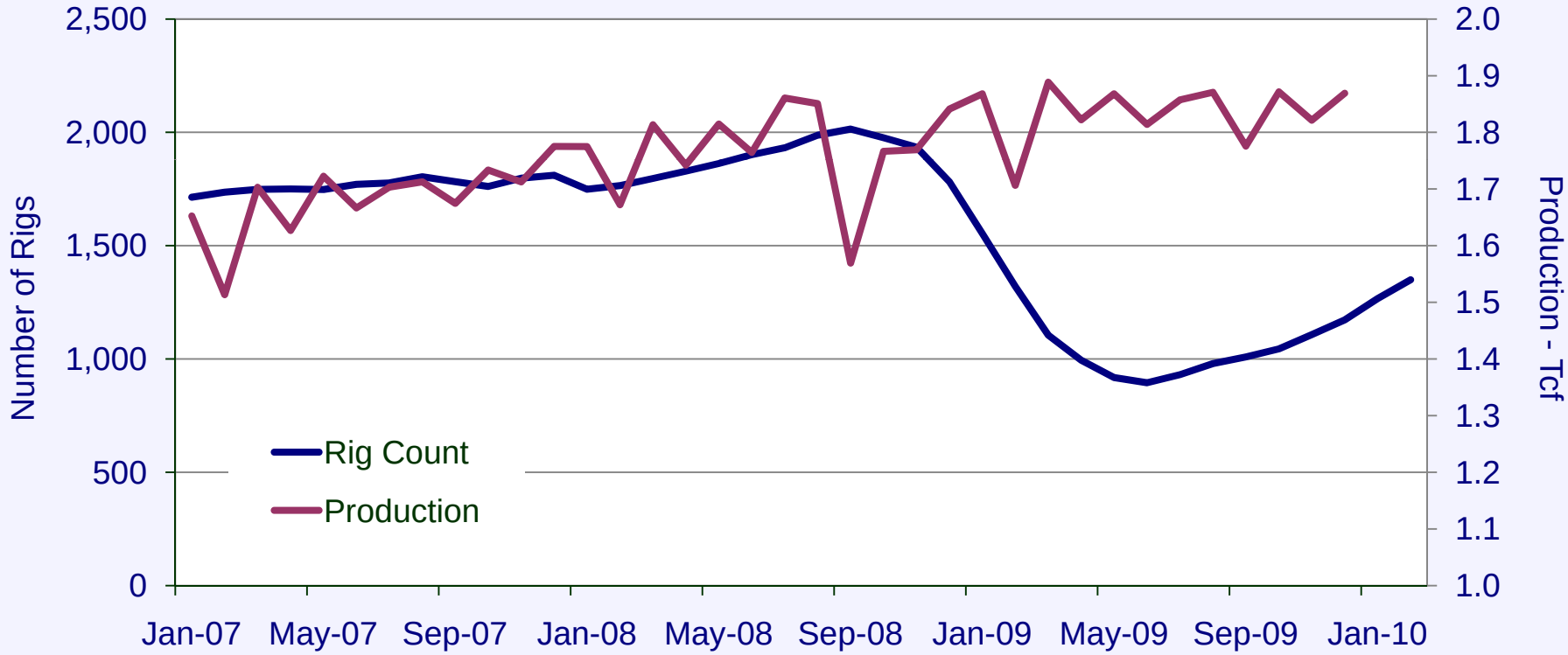
U.S. Active Rig Count and Production

Rig counts have been falling, but production is actually increasing. Significant shift in drilling productivity that was abysmal prior to 2005.



Source: Baker Hughes; and Energy Information Administration, U.S. Department of Energy.

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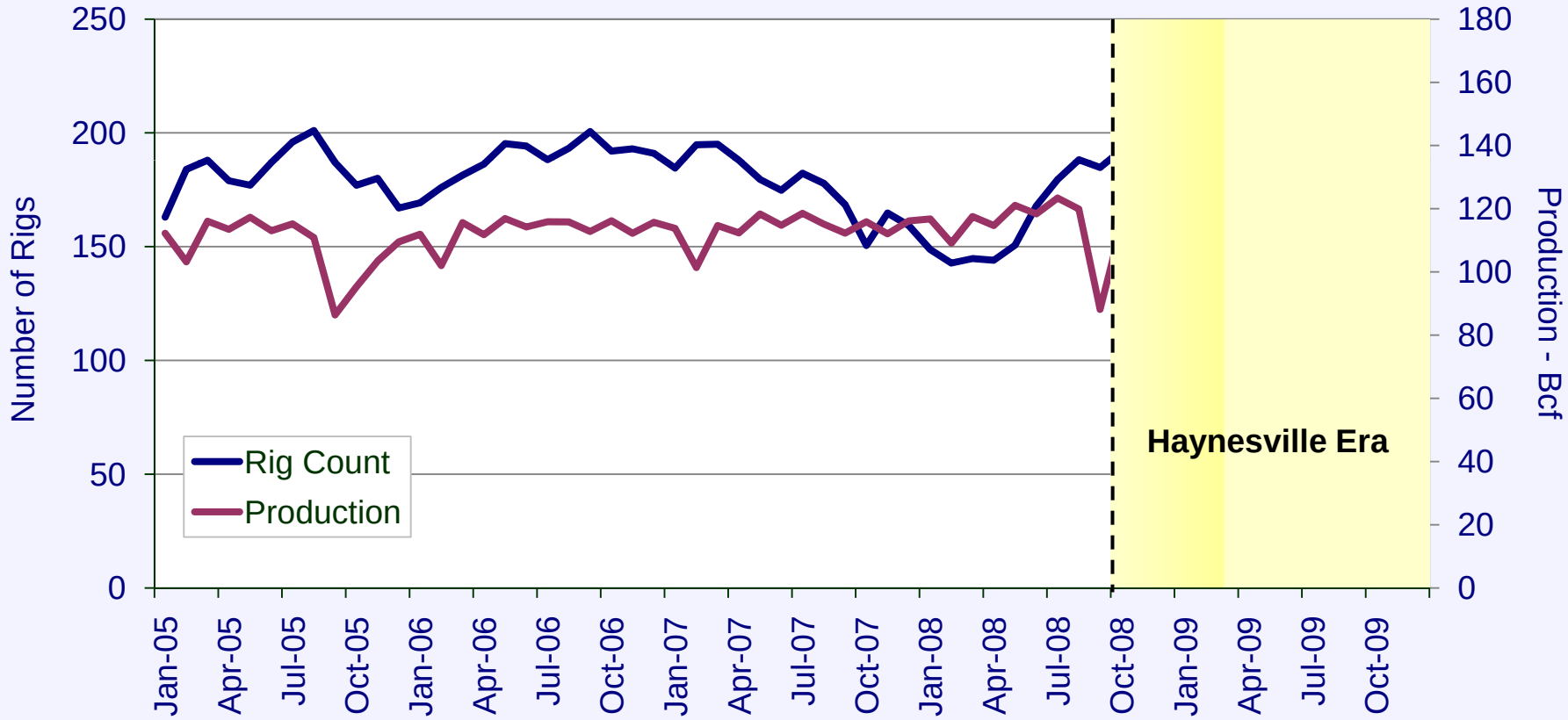
Louisiana Rig Count and Gas Production

Louisiana natural gas production was relatively constant until late 2008. Production became explosive given new production from Haynesville shale parishes.



Source: Baker Hughes; and Energy Information Administration, U.S. Department of Energy.

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Haynesville Shale Quick Facts

Duke Energy Gas Transmission Canada

- **$2.4 billion in new business sales within the state of Louisiana in 2008 created by Haynesville Shale activity.**
- **As a result, approximately $3.9 billion in additional household earnings** (much of this from lease and royalty payments).
- **32,742 jobs created in 2008 due to Haynesville Shale activity.**
- **$153.3 million in state and local tax revenues in 2008 due to Haynesville Shale activity.**
- **Conservative estimate.** Data sampled included seven of the largest natural gas extraction firms, leaving out as many as ten other small to mid-size firms operating in the Haynesville Shale.

Source: The Economic Impact of the Haynesville Shale on the Louisiana Economic in 2008.
By Loren C. Scott for the Louisiana Dept. of Natural Resources.

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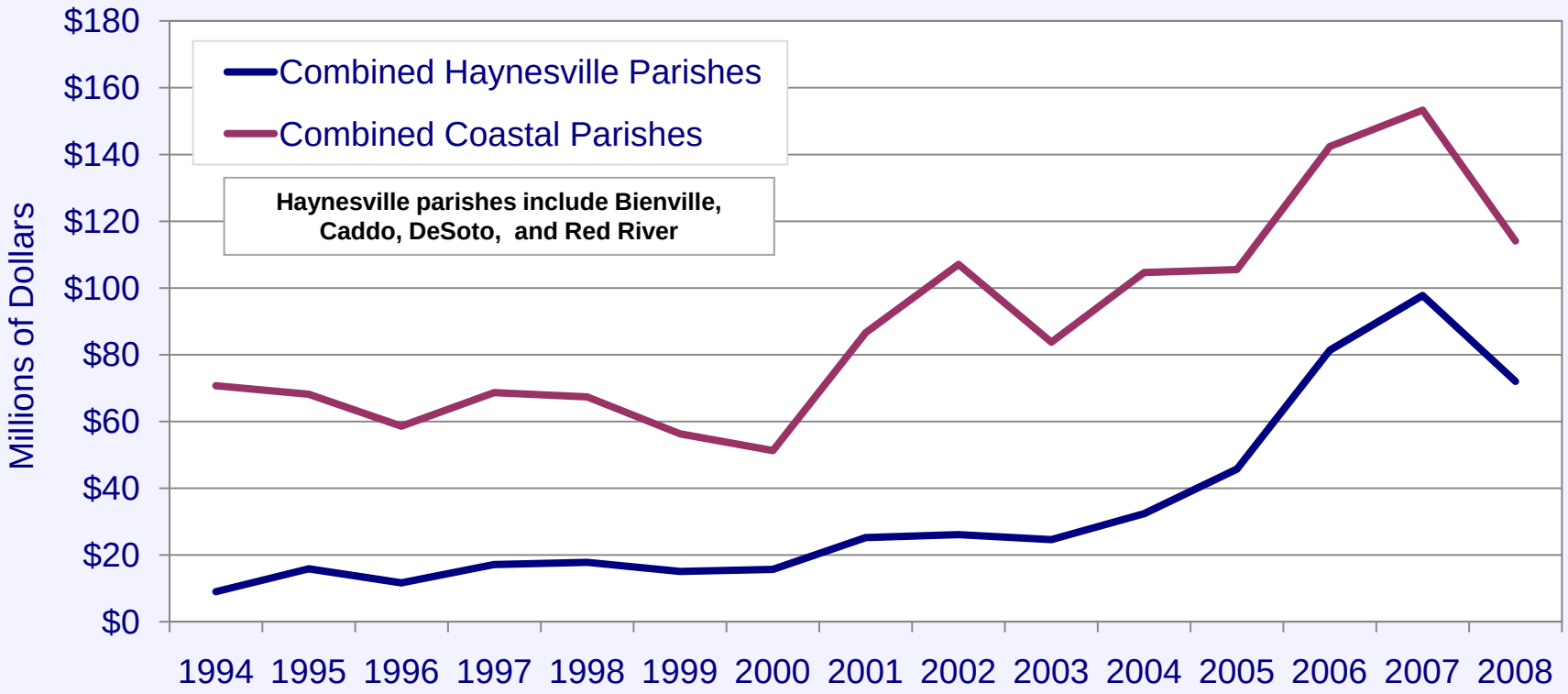
Haynesville and Coastal Parishes Natural Gas Severance Tax Revenue

Natural gas severance revenues have grown throughout the state, but have been particularly significant for the Haynesville parishes.



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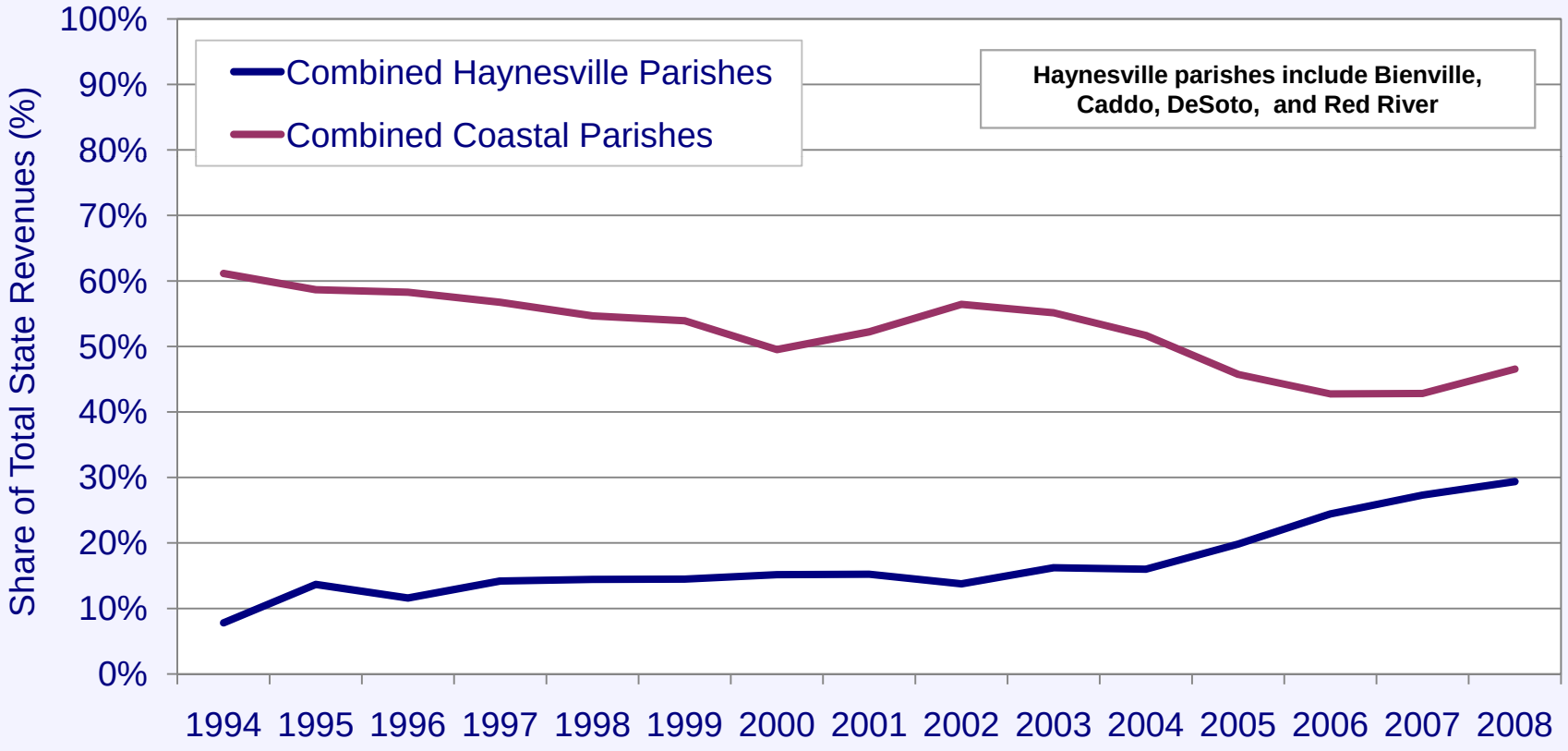
Haynesville and Coastal Parishes Share of Total State Natural Gas Severance Revenue

The Haynesville parishes' share of total severance revenue receipts has increased from less than 10 percent in 1994 to almost 30 percent in 2008.



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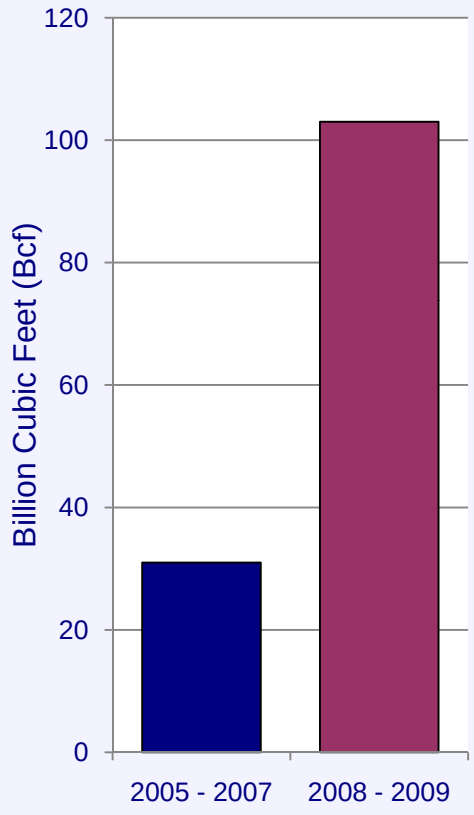
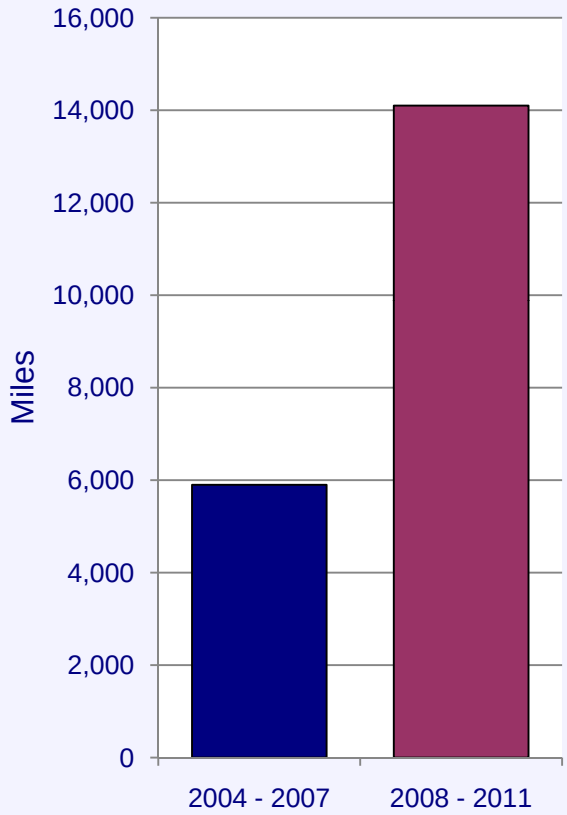
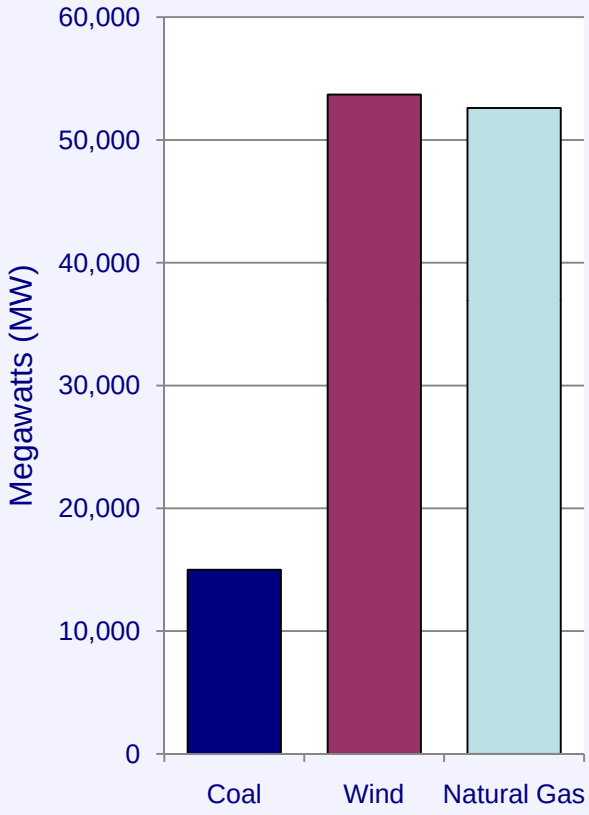
Market Recognizes Future Role of Natural Gas



New Natural Gas Storage Capacity



New Natural Gas Pipelines



New Capacity for Electricity Generation

Sources: EIA, Energy Ventures Analysis, Natural Gas Supply Association

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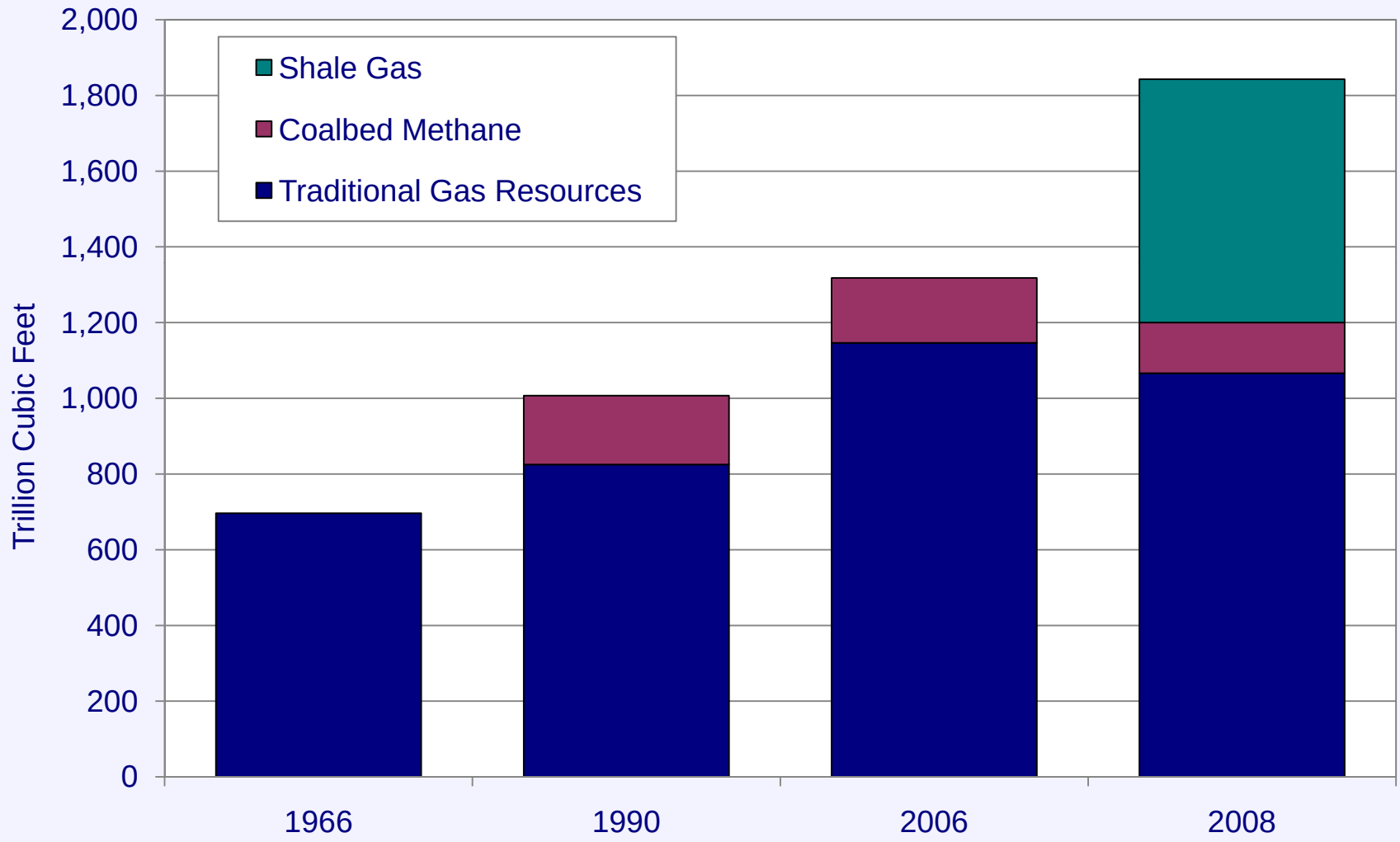
Estimated Size of U.S. Natural Gas Resources



Source: Natural Gas Supply Association

Challenges and Diversity

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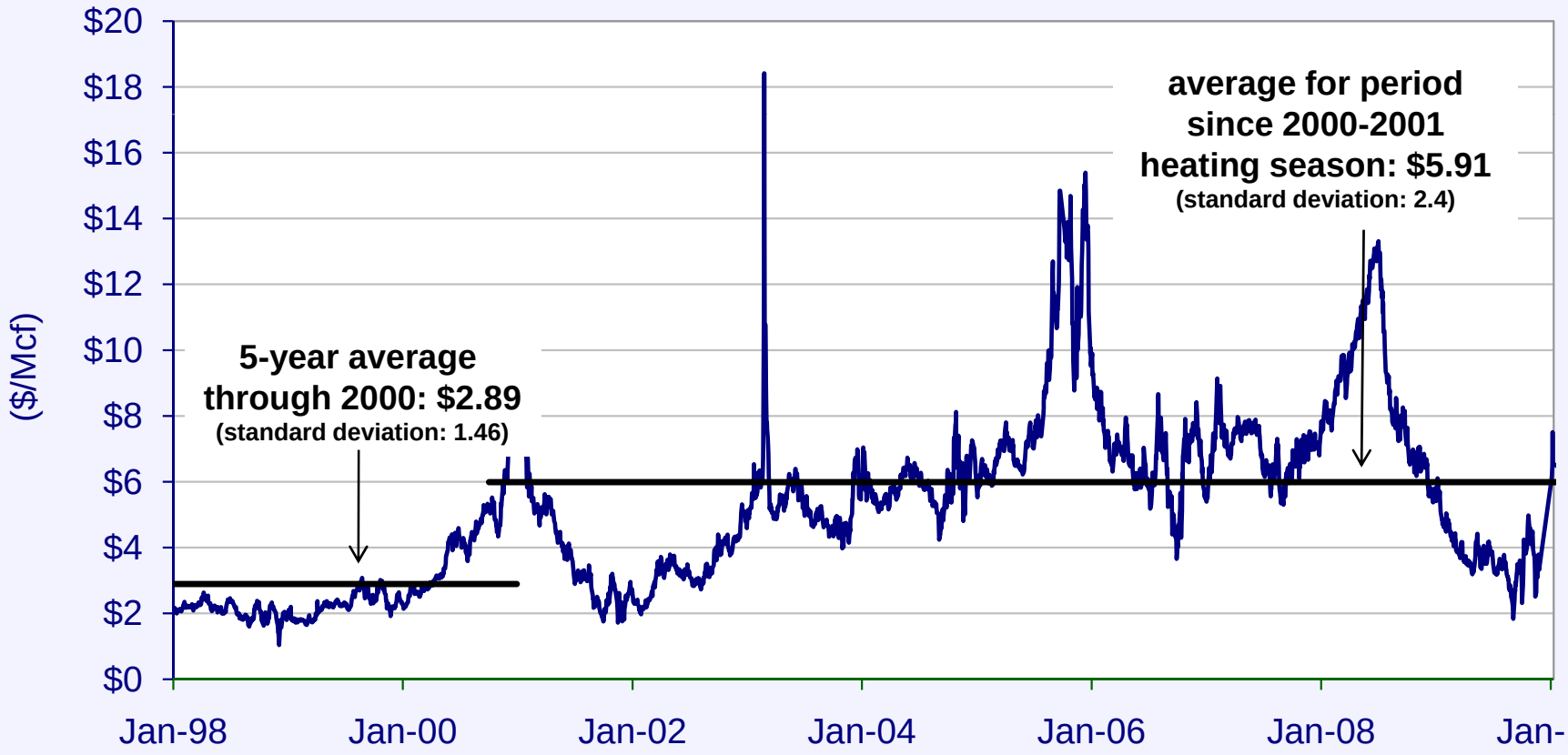
Daily Henry Hub Prices (1998-Present)

While price volatility is always an issue for energy investments, the sheer free-fall of gas prices from their July, 2008 high has been staggering.

Survival in a low-gas price environment is one of the single biggest challenges for shale producers throughout the U.S.



Source: Intercontinental Exchange.

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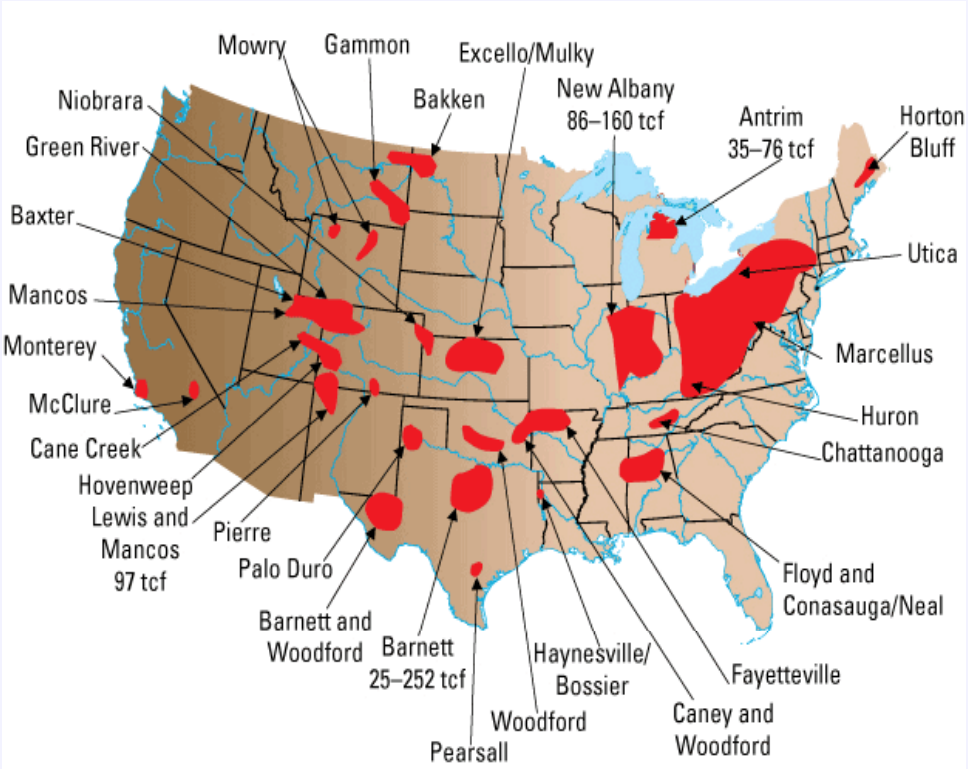
Forward-Looking Challenges



- **Analysis of shale resources over the past three years has focused very heavily on identifying and characterizing the resource.**
- **Significant emphasis on understanding its magnitude.**
- **This has been an important contribution since many producers now have a good appreciation for the opportunities in shale development.**

- **Other stakeholder groups, such as investors, policy makers, regulators, interest groups and the general public are also starting to understand and appreciate the importance of these resources.**
- **Challenge over the next three to five years will be in understanding the winners and losers within the various plays.**
- **Can be as much variation in production within some of these plays and between them.**

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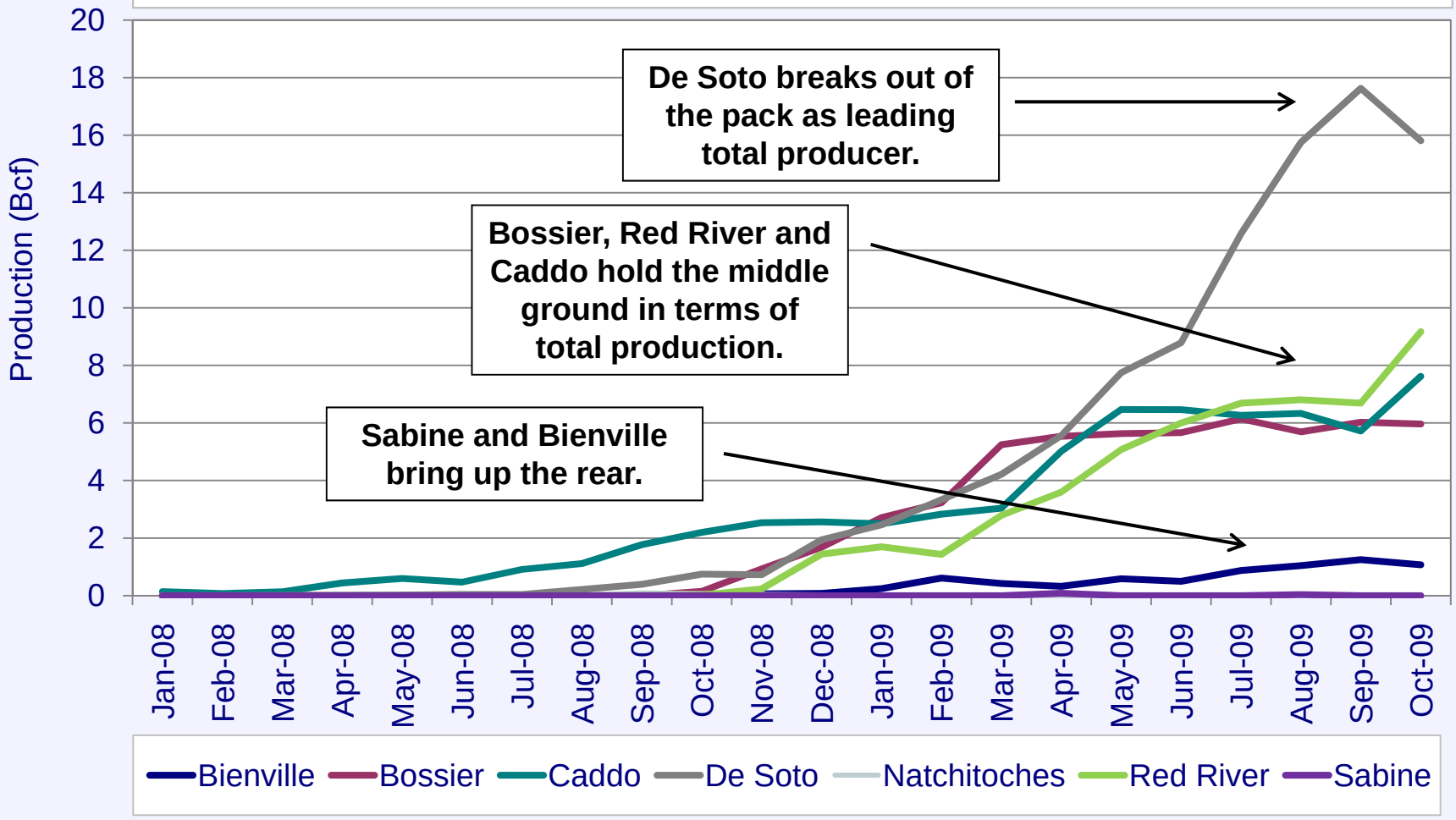
Total Louisiana Haynesville Production by Parish

Prior to January 2009, there was relatively close movement in production trends across the six major Haynesville producing parishes. Afterwards, you see a break into three different camps.



Source: Preliminary work compiled by the Center for Energy Studies.

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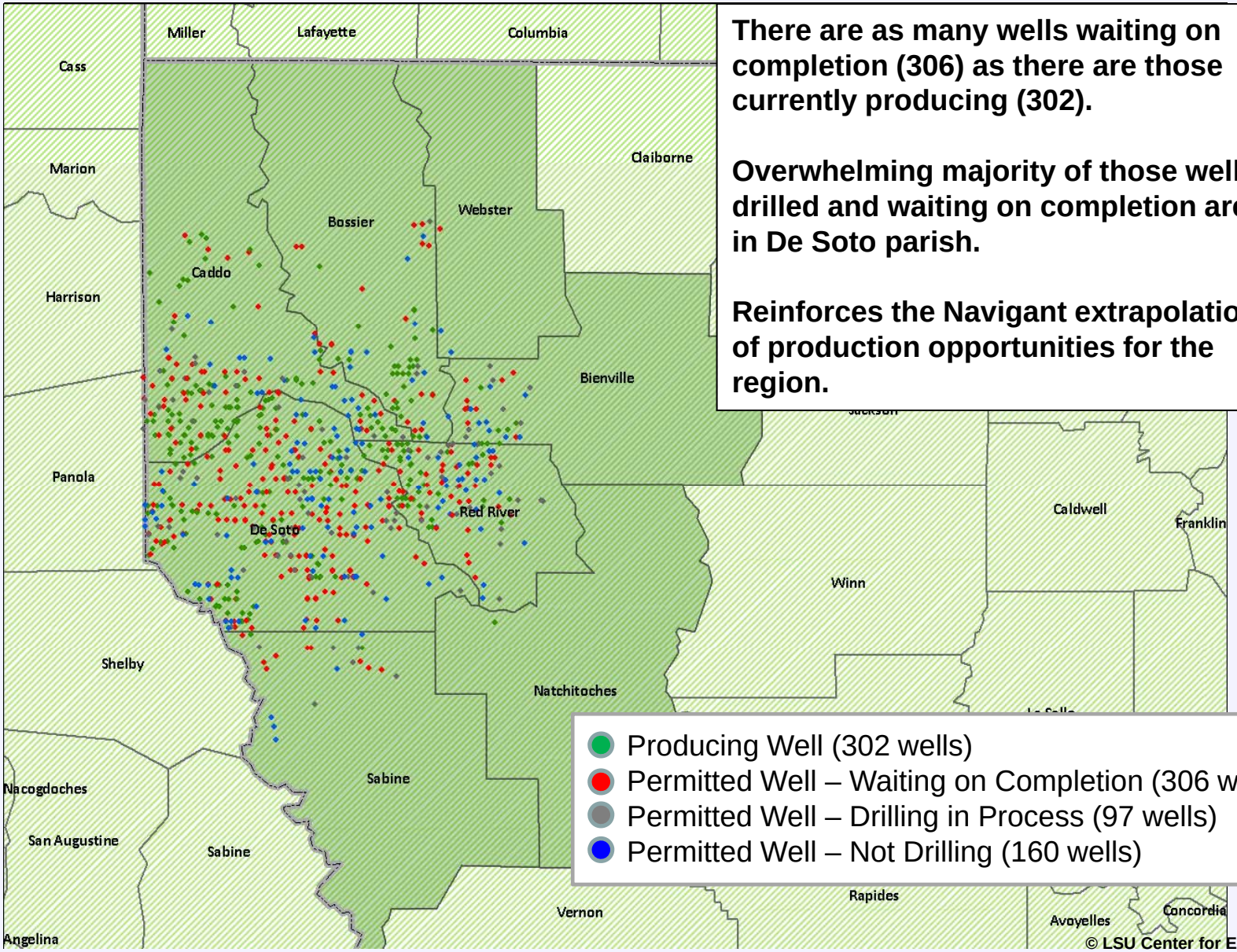
Distribution and Status of Haynesville Wells



There are as many wells waiting on completion (306) as there are those currently producing (302).

Overwhelming majority of those wells drilled and waiting on completion are in De Soto parish.

Reinforces the Navigant extrapolation of production opportunities for the region.

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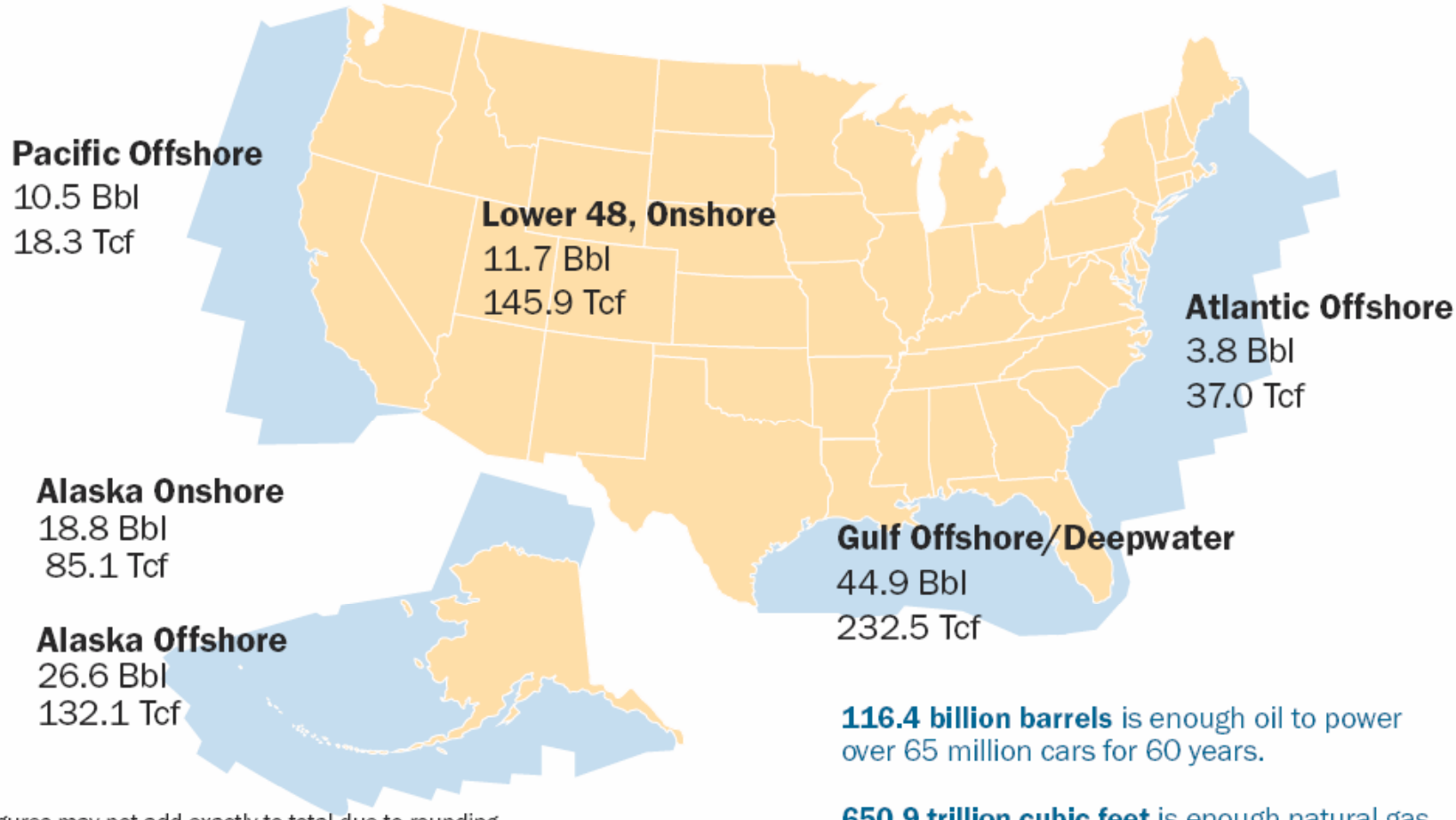
U.S. Crude Oil and Natural Gas Resources
(Undiscovered, Technically Recoverable Federal Resources)

Continued debate on where and how resources should be developed. Clearly, the resource base is there.



116.4 billion barrels is enough oil to power over 65 million cars for 60 years.

650.9 trillion cubic feet is enough natural gas to heat 60 million homes for 160 years.

*Figures may not add exactly to total due to rounding.
Source: MMS, BLM, and API calculations.

Source: MMS, BLM, and API Calculations

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OCS Lower 48 "Moratoria" Resources
(Undiscovered, Technically Recoverable Federal Resources)

Compromise issues often surround allowing "first access" to areas further out: problem is that those areas can be expensive to tap.

Pacific Coast*

Current Resource Estimate:
Oil (Bbbls) = 10.53
Gas (Tcf) = 18.29

Share of Resources Located:

0–50 miles
Oil = 90.8%
Gas = 91.7%

50–100 miles
Oil = 6.4%
Gas = 6.3%

Over 100 miles
Oil = 2.8%
Gas = 2.1%

Gulf of Mexico**
Oil (Bbbls) = 3.7
Gas (Tcf) = 21.5

Atlantic Coast*

Current Resource Estimate:
Oil (Bbbls) = 3.82
Gas (Tcf) = 36.99

Share of Resources Located:

0–50 miles
Oil = 27.5%
Gas = 25.9%

50–100 miles
Oil = 33.6%
Gas = 32.2%

Over 100 miles
Oil = 38.9%
Gas = 42.0%

* Moratoria removed as of October 1, 2008
** Off limits until 2022

Source: API projections based on MMS resource estimates by water depth for Outer Continental Shelf

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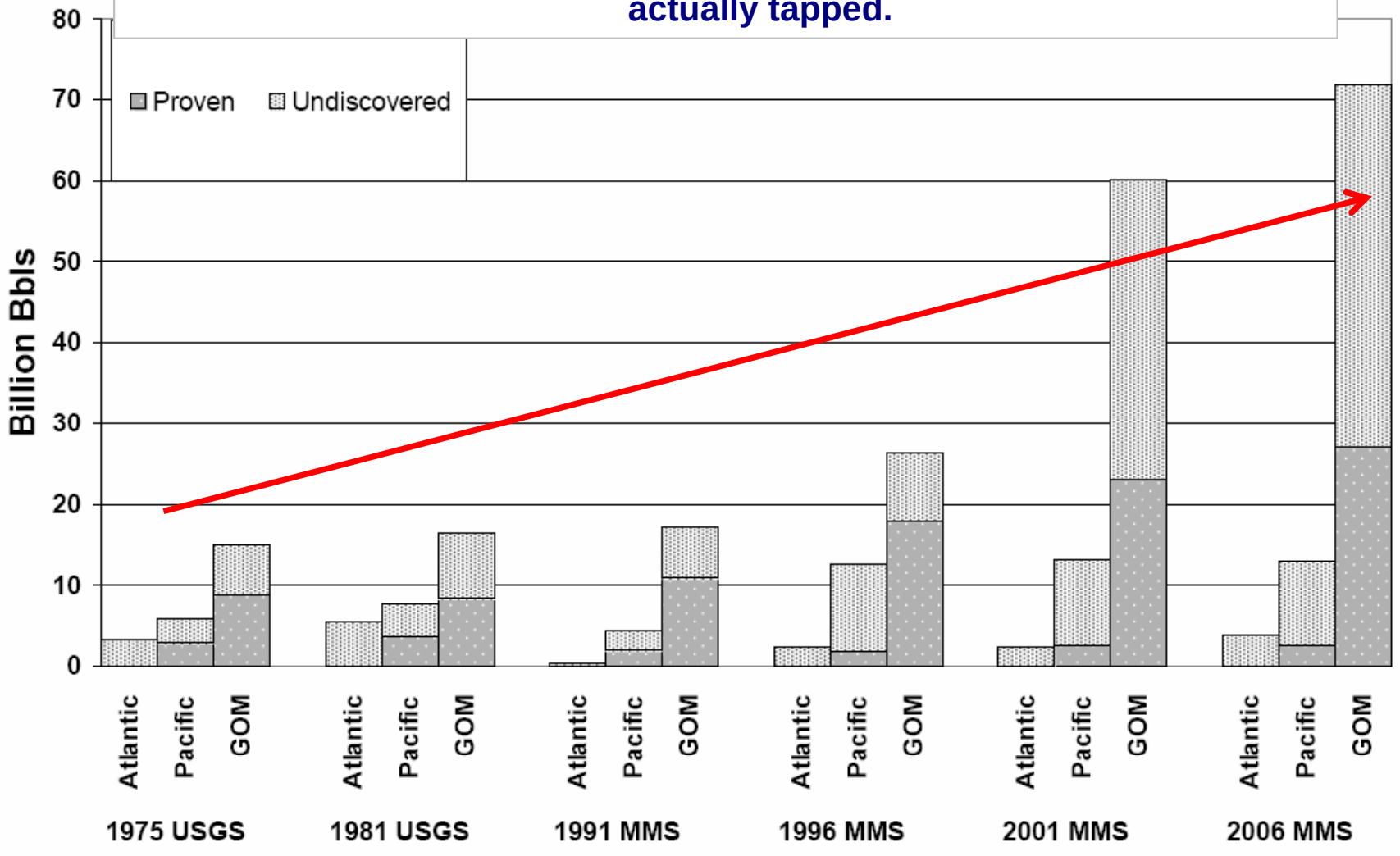
History of MMS Oil Assessments

The more we learn, the more we know. Very likely these resource assessments will yield higher estimates as the resource base is actually tapped.



Source: ICF International

Conclusions

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Take-Away Points

- **Understatement to note shale is a game changer – the large unknowns are to what extent, and how far, these opportunities can spread – particularly abroad. LNG will always provide discipline to the market (margin cost of importing can be very low).**

- **Existing opportunities (Rockies, Alaska, deepwater) are still there and new opportunities (frontier areas, deep drilling) continue to materialize (i.e., substitutes and alternatives).**

- **Demand (recovery) big unknown at this point. New technologies likely to have significant and unknown impacts on markets.**

- **Policy still has an impact, several initiatives that could unwind resource gains. Opportunities for big gains, big contractions (are we headed for 1974 or 1979?)**

- **Balanced approach still makes the most sense. We are in good position – leave the market alone.**

Market Risks and Outlook

Market Risk	Likelihood	Natural Gas Price	Crude Oil Price
Moderate to Slow Recovery	Certain	↔	↑
Rapid Domestic Recovery	Not Likely	↑	↑
Rapid Global Recovery	??	↔	↑
Future OPEC Production Cuts	Not Likely	↔	↔
Colder than Average Winter	Likely	↓	↔
Moderate Spring/Late Summer	Very Likely	↓	↔
Continued Shale Strength	Possible	↓	↔
Dollar Valuation Volatility	Likely	↔	↑

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Questions, Comments, & Discussion

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