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Economic Newsletter for the New Millennium

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The Lack of a Cohesive Energy Policy by the United States is a major cause of our continued wallowing in the ongoing Recession like Economy!

Could the sun be rising on a dawn of energy independence for the U.S.?

THE PROBLEM

An abundance of usable energy, especially when converted into electricity, is the key to the economic advancement of society. The lack of cohesion in the energy policy of the U.S., if you care to call it a policy at all, has a few major factors at its root. One of them is the concern for protecting the environment. This is a noble cause but it is plagued by a great deal of science fiction and a large dose of incorrect scientific information. Some refer to it as the Al Gore brand of science.

The environmentalists stress the risk of damage to the physical environment, the land, water, and air and its accompanying health hazards. This is a good thing to do – in the right measure. However, little concern seems to be shown for the risks resulting from an anemic rate of economic growth and its excessively high unemployment rate from a lingering recession-like economic behavior; a loss of real income due an excessively high priced energy, an excessively unequal income distribution, and an exacerbated political risk facing our military and state department officials around the world from terrorists financed by huge profits on the crude oil production of unfriendly, and some self-professed friendly, OPEC nations.

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Do not forget the high costs of added security domestically to prevent other 9/11s from occurring. As we pointed out in several issues of this newsletter over the past few years, one of the major causes for the collapse of housing prices, was the loss of real income due to the several years of high gasoline prices and food prices as a large amount of land was diverted to the production of dent corn for conversion into ethanol.

Killing Fields: Weak Links in Otherwise Strong Economy

January 6, 2006

[Predicting Financial Collapse January 2006](#)

In our January 2006 Newsletter article, we warned against the impending housing collapse and the danger of rising oil prices...

The U. S. Economy in 2011: A Real Bummer

March 10, 2011

<http://www.econnewsletter.com/48901/index.html>

"To satisfy the subsidized use of ethanol, hundreds of thousands of acres of crop land are being diverted to corn production for making ethanol. I just heard from an Iowa resident that farmers are taking lots of acreage out of the land bank and producing corn for ethanol. While inclement weather is also a cause of skyrocketing food prices, acreage diversion from soy beans, etc as well as diverting corn from its market derivative products including food and other uses, is also a major cause of such rising prices. The weather will improve, the diversion of acreage will not."

Yes indeed, environmental concerns, while necessary if properly understood, do have very high costs. What is needed is a new metric for establishing a balance between the risks of more scientifically measured environmental damage with the risk of economic damage from environmentally induced legislation resulting in vastly overpriced energy for a nation that is more than suited and able to be energy independent.

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A second cause of our lack of a more rational energy policy is simply put, old fashioned greed in the private sector. Through the exercise of market power (more commonly referred to as monopoly power), competition is stifled in order that energy firms, especially crude oil firms, can charge excessively high prices and excessive profits leading to returns on equity ([ROE of 26%+](#)) that would make organized crime happy. By restricting supply, prices are increased well above their market clearing levels that would occur if firms lacked the market power to control significant portions of supply.

We've seen this most recently in the case of natural gas, where falling prices has paved the way for an industry-wide curtailment in production.

A major player in the natural gas market, Chesapeake Energy, has announced its intention to significantly cut back its production because of low natural gas prices. The significant uptick in the supply of natural gas has been the one bright spot in all this news.

[Chesapeake to cut natural gas production \[The Oklahoman, Oklahoma City\]](#)

Aug. 08--The country's surge in natural gas production may soon be over.

"Chesapeake Energy Corp. -- which has billed itself as "America's Champion of Natural Gas" and is the country's second largest natural gas producer -- said Tuesday that it has turned off the spigot and will see a 7 percent decline in its natural gas production in 2013."

THE HOPE

Currently under way is a kind of black gold rush in shale or as some call it tight oil and shale gas. It may prove more valuable than the Klondike and similar gold rushes. Bakken, Eagle Ford, and Marcellus are beginning to bring forth oil and gas that challenge the control of such energy sources by the oil cartels. Other such shale regions are sitting there waiting for development and production efforts.

Don't forget the federal lands, some brimming full of pools of oil ready for the proverbial picking, such as ANWR in Alaska and offshore areas such as those near California, in the Gulf of Mexico and the Atlantic seaboard.

Table 9.1. Technically recoverable U.S. crude oil resources as of January 1, 2010

billion barrels

	Proved Reserves	Unproved Resources	Total Technically Recoverable Resources
Lower 48 Onshore	14.2	112.6	126.7
Northeast	0.2	4.4	4.6
Gulf Coast	1.5	21.4	22.8
Midcontinent	1.3	12.7	14.0
Southwest	5.3	27.6	32.9
Rocky Mountain	3.2	23.0	26.2
West Coast	2.7	23.5	26.2
Lower 48 Offshore	4.6	50.3	54.8
Gulf (currently available)	4.1	38.7	42.7
Eastern/Central Gulf (unavailable until 2022)	0.0	3.7	3.7
Pacific	0.5	6.6	7.1
Atlantic	0.0	1.4	1.4
Alaska (Onshore and Offshore)	3.6	35.0	38.6
Total U.S.	22.3	197.9	220.2

Note: Crude oil resources include lease condensates but do not include natural gas plant liquids or kerogen (oil shale). Resources in areas where drilling is officially prohibited are not included in this table. The estimate of 7.3 billion barrels of crude oil resources in the Northern Atlantic, Northern and Central Pacific, and within a 50-mile buffer off the Mid and Southern Atlantic OCS is also excluded from the technically recoverable volumes because leasing is not expected in these areas by 2035.

Source: Onshore, State Offshore, and Alaska - U.S. Geological Survey (USGS); Federal (Outer Continental Shelf) Offshore - Bureau of Ocean Energy Management (formerly the Minerals Management Service); Proved Reserves - U.S. Energy Information Administration. Table values reflect removal of intervening reserve additions between the date of the latest available assessment and January 1, 2010.

The slow rise of energy from non-fossil sources is also showing the possibility of a breakout, especially for solar energy. Third generation solar panels that convert solar energy directly into electricity are now beginning to edge toward commercial applications. In a coming issue, we shall delve into these exciting developments.

...from Austria

Green Tech Valley – Environmental Technology and Renewable Energy
<http://www.eco.at/cms/223/English/>

FIBAG – Dr. Mario J. Müller

<http://www.eco.at/cms/388/30825/fibag+-+HANS+H%D6LLWART+-+Forschungszentrum+f%FCr+integrales+Bauwesen+AG/>

We have seen the price of natural gas collapse to the point than many electric utilities have been considering shifting from coal to gas fired generators. The choke point is that of the availability of pipelines to ship the gas to the refineries and end users.

Now we are beginning to see an increase in domestic production (in the U.S.) of oil from newly exploited shale fields.

THE DATA

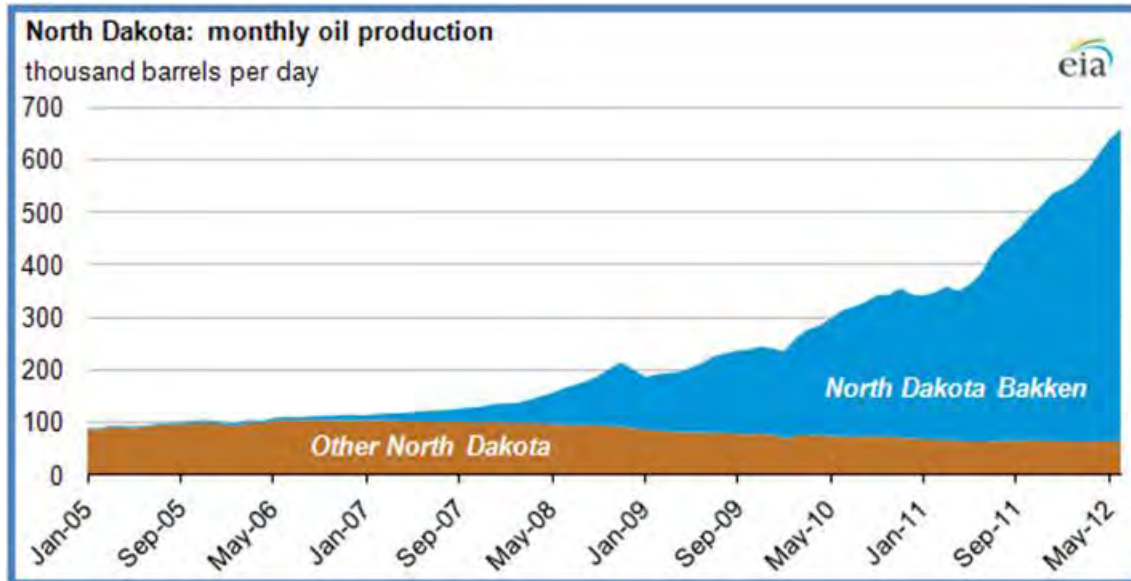
Here is some of the recent data on both energy sources and in particular, crude oil and petroleum products.

1) Shale Gas and Tight Oil in North Dakota – Bakken

<http://www.eia.gov/todayinenergy/detail.cfm?id=7550>

August 15, 2012

[North Dakota crude oil production continues to rise](#)



Source: U.S. Energy Information Administration, based on [North Dakota Department of Mineral Resources](#).

Note: Includes Bakken, Sanish, Three Forks, and Bakken/Three Forks pools.

North Dakota's oil production averaged 660 thousand barrels per day (bbl/d) in June 2012, up 3% from the previous month and 71% over June 2011 volumes. Driving production gains is output from the [Bakken formation](#) in the Williston Basin, which averaged 594 thousand bbl/d in June 2012, an increase of 85% over the June 2011 average. The Bakken now accounts for 90% of North Dakota's total oil production.

Production gains in the Bakken formation are the result of accelerated development activity, primarily [horizontal drilling combined with hydraulic fracturing](#). According to the [North Dakota Department of Mineral Resources](#), there were a total of 4,141 producing wells in the North Dakota Bakken in June 2012, up 4% from May 2012 and up 68% from the number of producing wells in June 2011.

North Dakota daily oil production up to 701,134 barrels per day for July 2012

<https://www.dmr.nd.gov/oilgas/directorscut/directorscut-2012-10-19.pdf>

North Dakota's Director's Cut
Lynn Helms
10/19/2012
NDIC Department of Mineral Resources

Jul Oil 20,963,713 barrels = 676,249 barrels/day

Aug Oil 21,735,166 barrels = 701,134 barrels/day (preliminary) (NEW all-time high)

Jul Gas 22,295,369 MCF = 719,205 MCF/day

Aug Gas 23,616,598 MCF = 761,826 MCF/day (preliminary) (NEW all-time high)

2) Texas – Eagle Ford

Eagle Ford Shale – Texas

<http://www.bloomberg.com/news/2012-09-21/eagle-ford-oil-production-above-310-000-barrels-a-day-in-july.html>

“Oil production in the Eagle Ford shale formation of southern Texas topped 310,000 barrels a day in July.

The nine fields that make up the majority of the 400-mile- long (644-kilometer) play pumped out 310,370 barrels a day, preliminary data on the Texas Railroad Commission's website showed. That's up from a revised count of 309,979 barrels a day in June, and 120,532 a day in July 2011.”

“Growing production out of Eagle Ford is helping fuel a renaissance in Texas crude. The state produced 1.9 million barrels a day in June, the highest monthly level since April 1991, according to the U.S. Energy Department.”

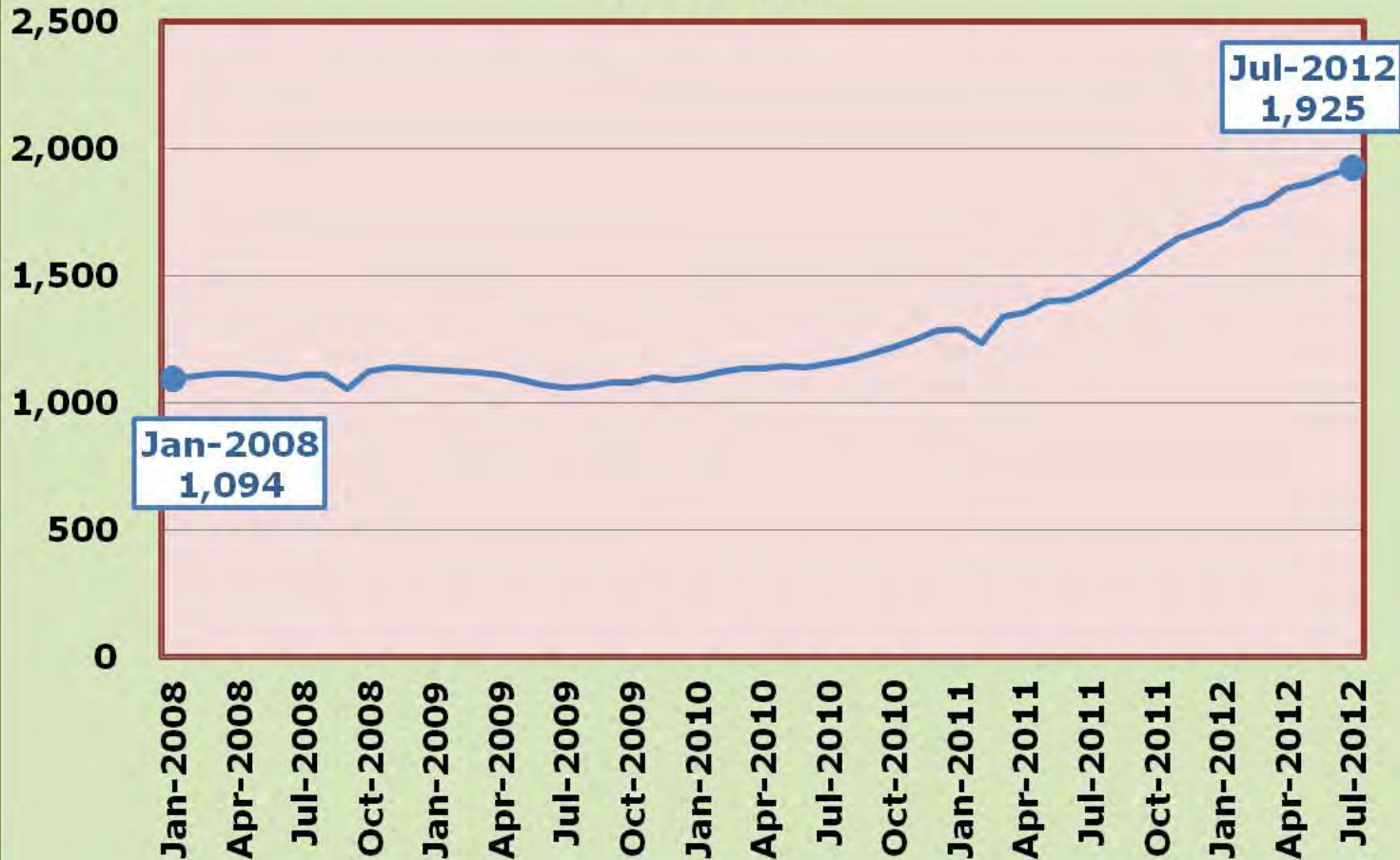
<http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=p&s=mcrfptx1&f=m>

Texas Field Production of Crude Oil (Thousand Barrels per Day)

Texas Crude Production rose by 76% to highest levels since 1989

U.S. Department of Energy, Energy Information Administration

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Massive reserves of shale gas and oil have only recently become available...
<http://www.eia.gov/analysis/studies/usshalegas/>

Table 1. INTEK estimates of undeveloped technically recoverable shale gas and shale oil resources remaining in discovered shale plays as of January 1, 2009

Onshore Lower-48 Oil and Gas Supply Submodule region	Shale play	Shale gas resources	
		(trillion cubic feet)	Shale oil resources (billion barrels)
Northeast	Marcellus	410	--
	Antrim	20	--
	Devonian Low Thermal Maturity	14	--
	New Albany	11	--
	Greater Sittstone	8	--
	Big Sandy	7	--
	Cincinnati Arch*	1	--
	<i>Subtotal</i>		472
<i>Percent of total</i>		63%	--
	Haynesville	75	--
	Eagle Ford	21	3
	Floyd-Neal & Conasauga	4	--
	<i>Subtotal</i>		100
<i>Percent of total</i>		13%	14%
Mid-Continent	Fayetteville	32	--
	Woodford	22	--
	Cana Woodford	6	--
<i>Subtotal</i>		60	--
<i>Percent of total</i>		8%	--
Southwest	Barnett	43	--
	Barnett-Woodford	32	--
	Avalon & Bone Springs	--	2
<i>Subtotal</i>		76	2
<i>Percent of total</i>		10%	7%
Rocky Mountain	Mancos	21	--
	Lewis	12	--
	Williston-Shallow Niobraran*	7	--
	Hilliard-Baxter-Mancos	4	--
	Bakken	--	4
<i>Subtotal</i>		43	4
<i>Percent of total</i>		6%	15%
West Coast	Monterey/Santos	--	15
<i>Subtotal</i>		--	15
<i>Percent of total</i>		--	64%
Total onshore Lower-48 States		750	24

*Note: From previous EIA estimates and thus not assessed in the INTEK shale report. Subtotals and total may not equal sum of components due to independent rounding.

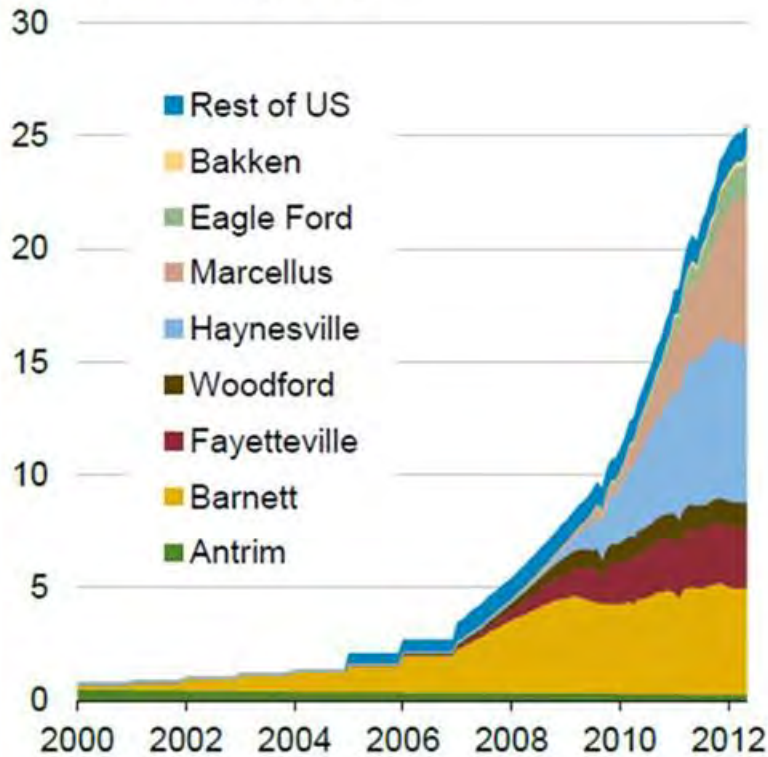
http://www.eia.gov/pressroom/presentations/sieminski_09272012.pdf

Energy Forecasting in Volatile Times
Federal Forecasters Conference – The Value of Government Forecasts
September 27, 2012 Washington, D.C.
Adam Sieminski, Administrator

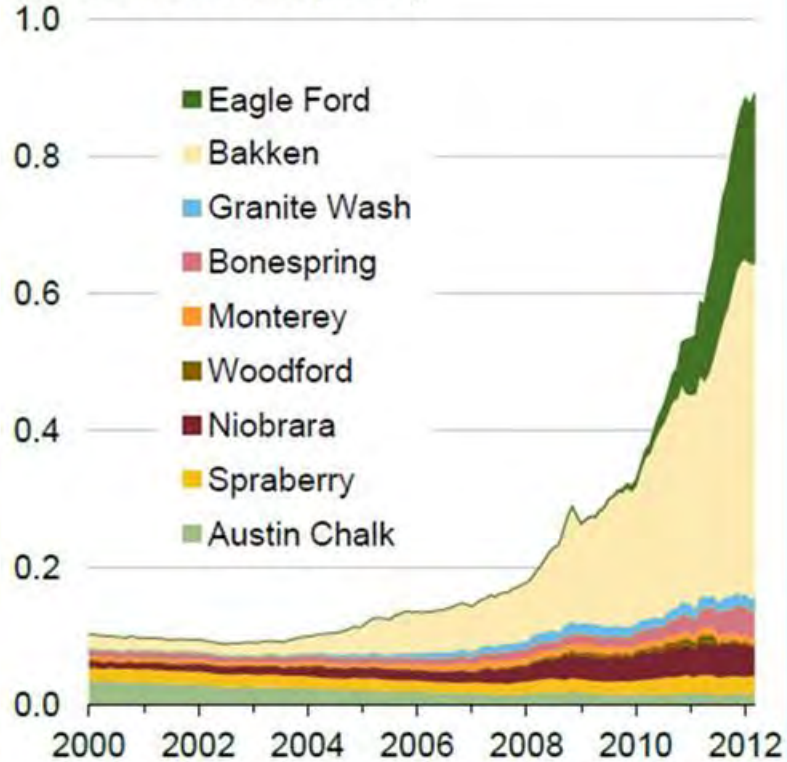
U.S. Energy Information Administration

Domestic production of shale gas and tight oil has grown dramatically over the past few years

shale gas production (dry)
billion cubic feet per day



tight oil production for select plays
million barrels of oil per day



Source: HPDI, Texas RRC, North Dakota department of mineral resources, and EIA, through March, 2012.

Shale (tight) oil has added more than one million barrels of crude oil production daily to the (petroleum) energy pipeline since 2008.

U.S. Field Production of Crude Oil (Thousand Barrels per Day)

Domestic Crude Production grew by 22.6% from Jan '08 to July '12

U.S. Department of Energy Information Administration
October 2012



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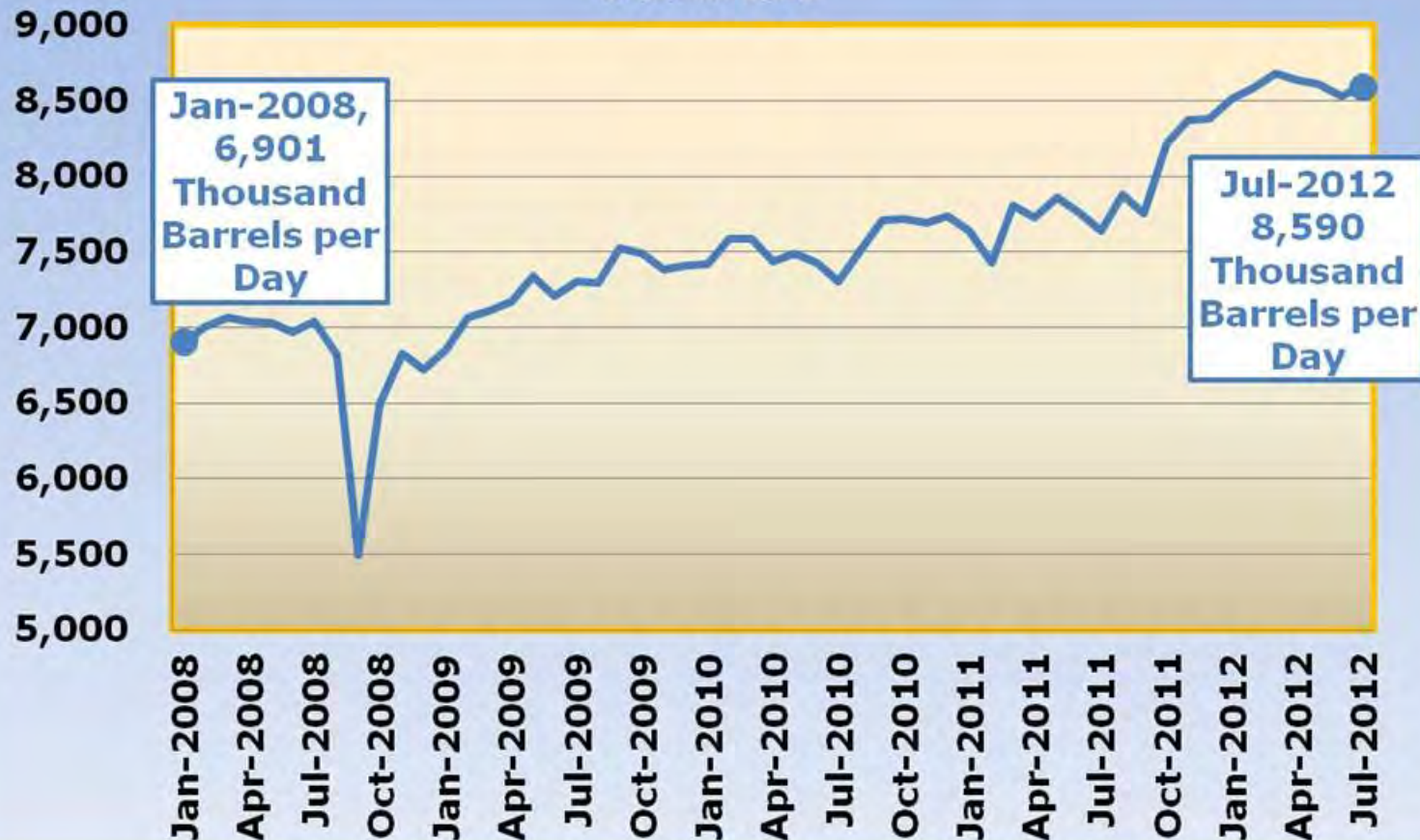
Included in the mix going into the refineries are crude oil, natural gas liquids and other liquefied refinery gases. Beyond the crude oil and petroleum products nearly a million barrels of ethanol derived from corn also goes into the refinery process.

U.S. Field Production of Crude Oil and Petroleum Products (Thousand Barrels per Day)

Domestic Petroleum production grew by 24.5% from Jan'08-July'12

U.S. Department of Energy, Energy Information Administration

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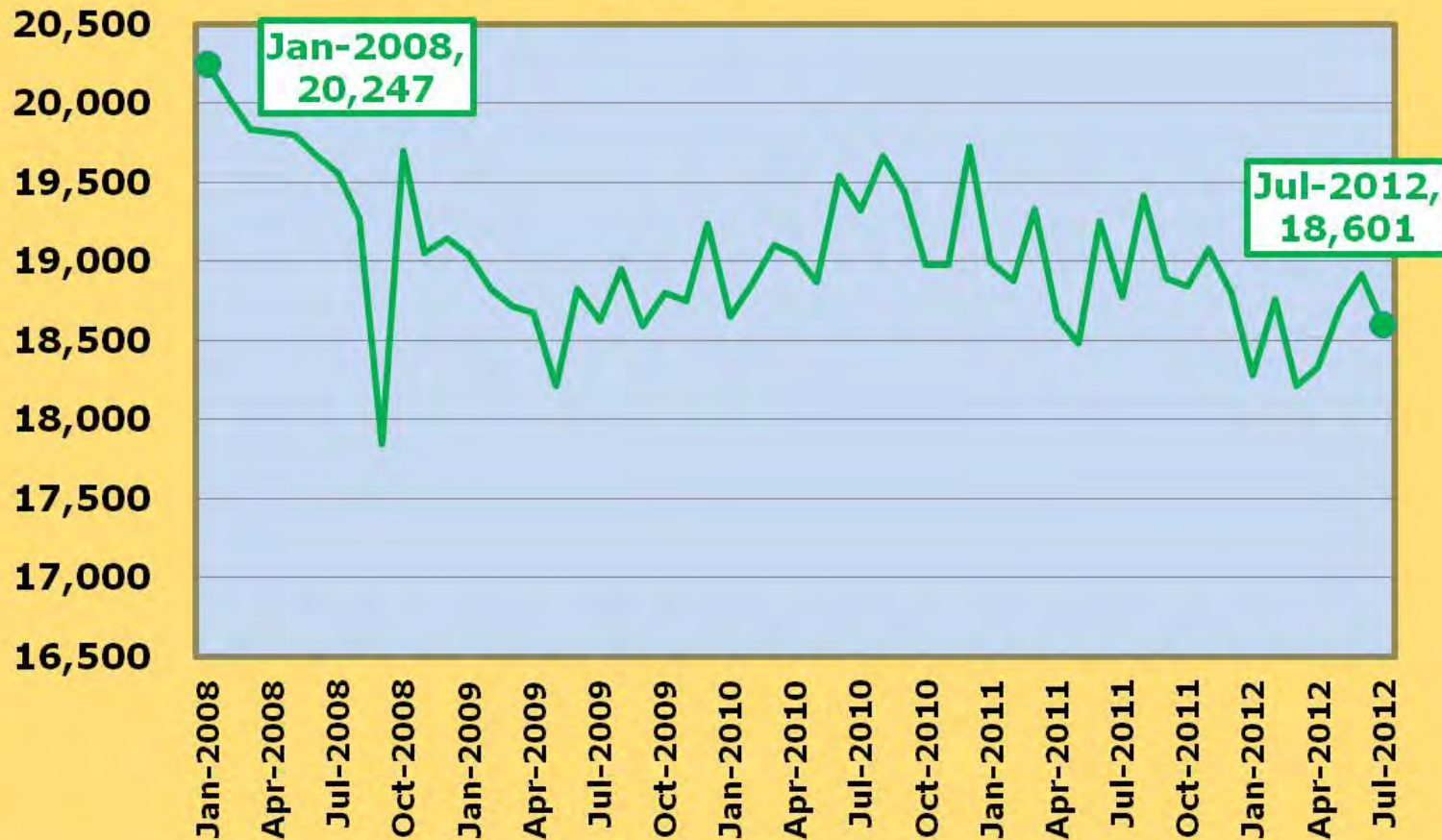
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When we look at 'Product Supplied of Crude Oil and Petroleum Products', the refinery process includes crude oil, natural gas liquids, corn based ethanol or other renewable sources. Within each group the source is either domestic or imported. Domestic input has become an increasingly larger component and by all indications that trend will continue.

U.S. Product Supplied of Crude Oil and Petroleum Products (Thousand Barrels per Day)

Production has fallen 8.1% since January 2008

U.S. Department of Energy, Energy Information Administration
October 2012



U.S. Imports of Crude Oil (Thousand Barrels per Day)

Imports of Crude Oil dropped by 14.6% from Jan 2008 to July 2012

U.S. Department of Energy, Energy Information Administration
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U.S. Imports of Crude Oil and Petroleum Products (Thousand Barrels per Day)

Imports fell 20.8% from Jan '08 - 'Jul '12

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U.S. Imports of Crude Oil and Petroleum Products (Thousand Barrels per Day) - from OPEC

Imports from OPEC fell 32.5% from Jan '08 - 'Jul '12

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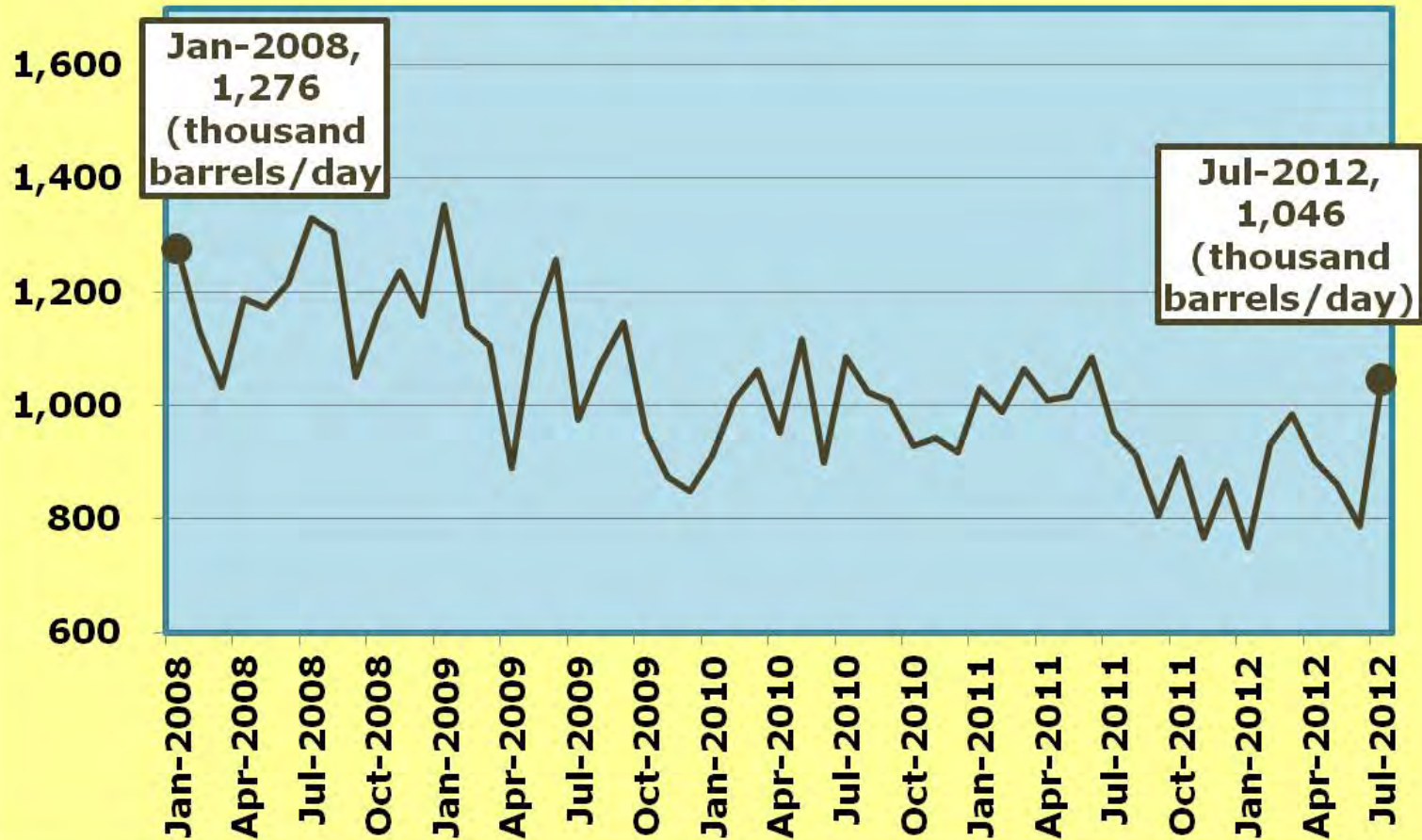
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U.S. Imports of Crude Oil and Petroleum Products from VENEZUELA (Thousand Barrels per Day)

Imports from Venezuela fell 18.0% from Jan '08 - 'Jul '12

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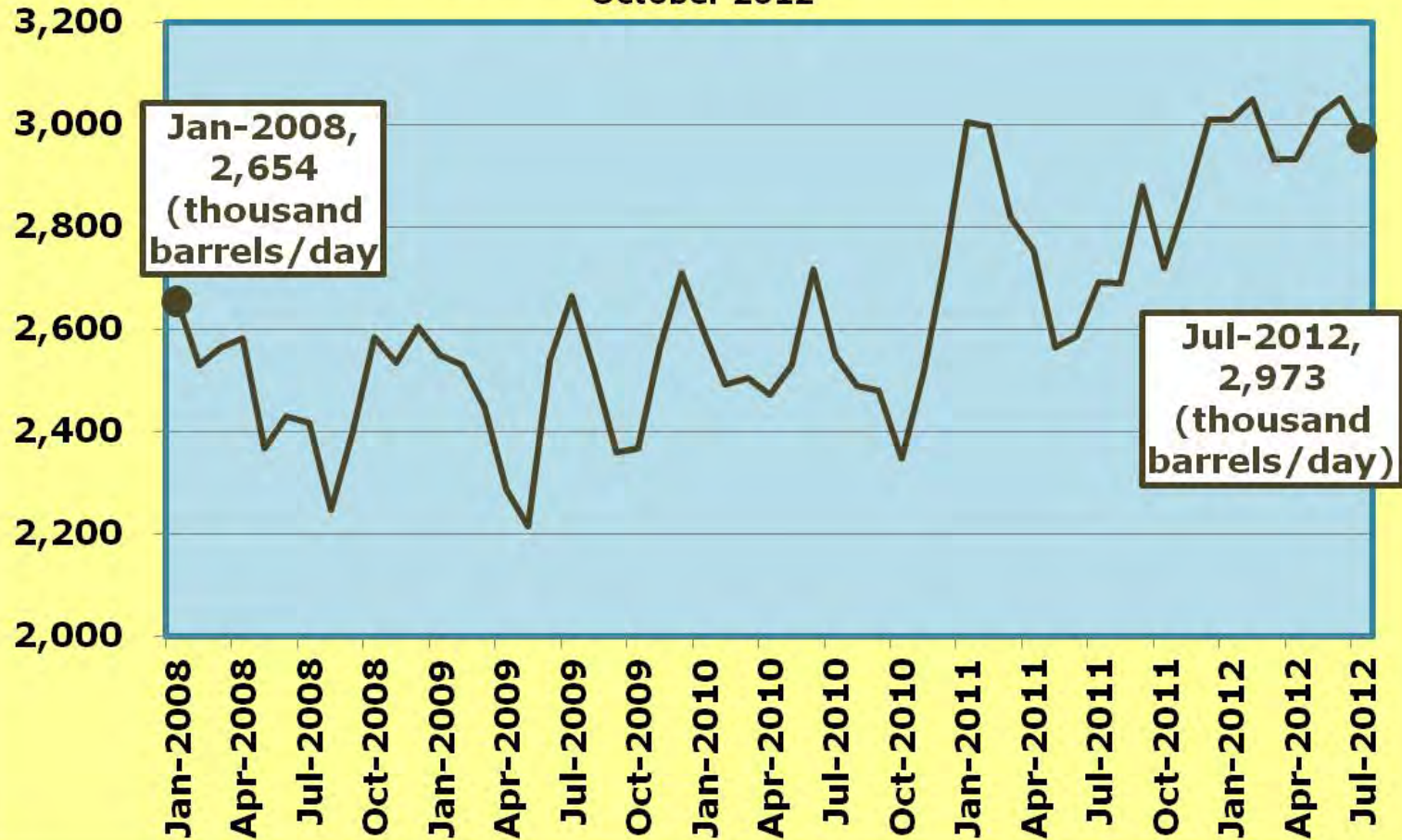
The good news on the imported crude oil (and petroleum products) side is that most of the trade (60 %+) involves non-OPEC sources, with Canada and Mexico in the vanguard. Bear in mind that as production in Alberta continues to ramp up and pipeline to the U.S. is expanded and improved, even more crude oil will be sourced from North America, with updated refineries at the ready to process it.

In addition, while exports of refined petroleum products have certainly increased, much of it is derived from imported crude that has been landed along the Gulf Coast and processed in Texas. With added crude flowing from domestic and other North American sources, this will enable refineries to move away from some of those less than desirable imports.

U.S. Imports of Crude Oil and Petroleum Products (Thousand Barrels per Day) - from CANADA

Imports from Canada rose 12.0% from Jan '08 - 'Jul '12

U.S. Department of Energy, Energy Information Administration
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U.S. Exports of Crude Oil and Petroleum Products (Thousand Barrels per Day)

U.S. Department of Energy, Energy Information Administration

98% of Exports are refined Petroleum Products - not Crude Oil

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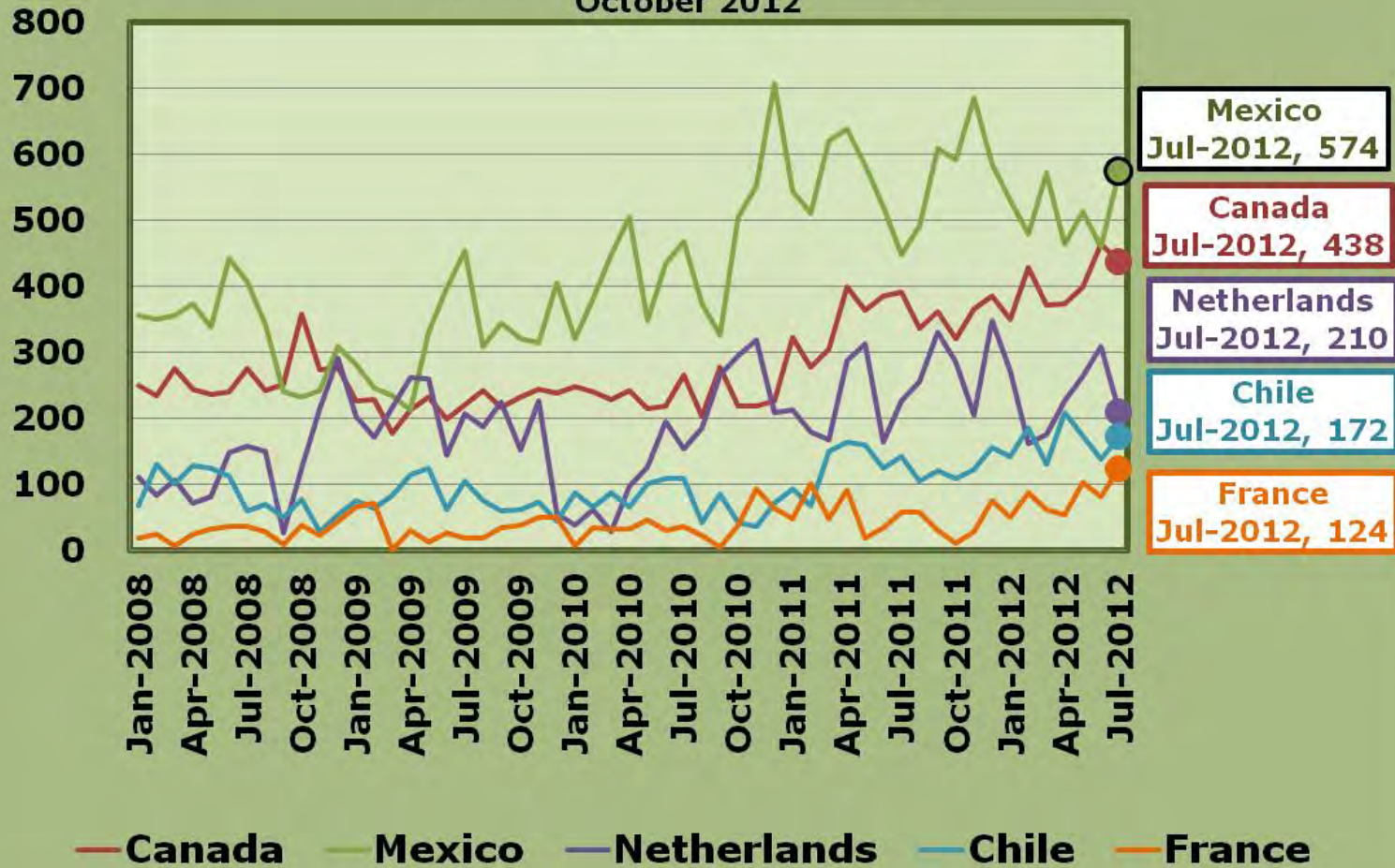
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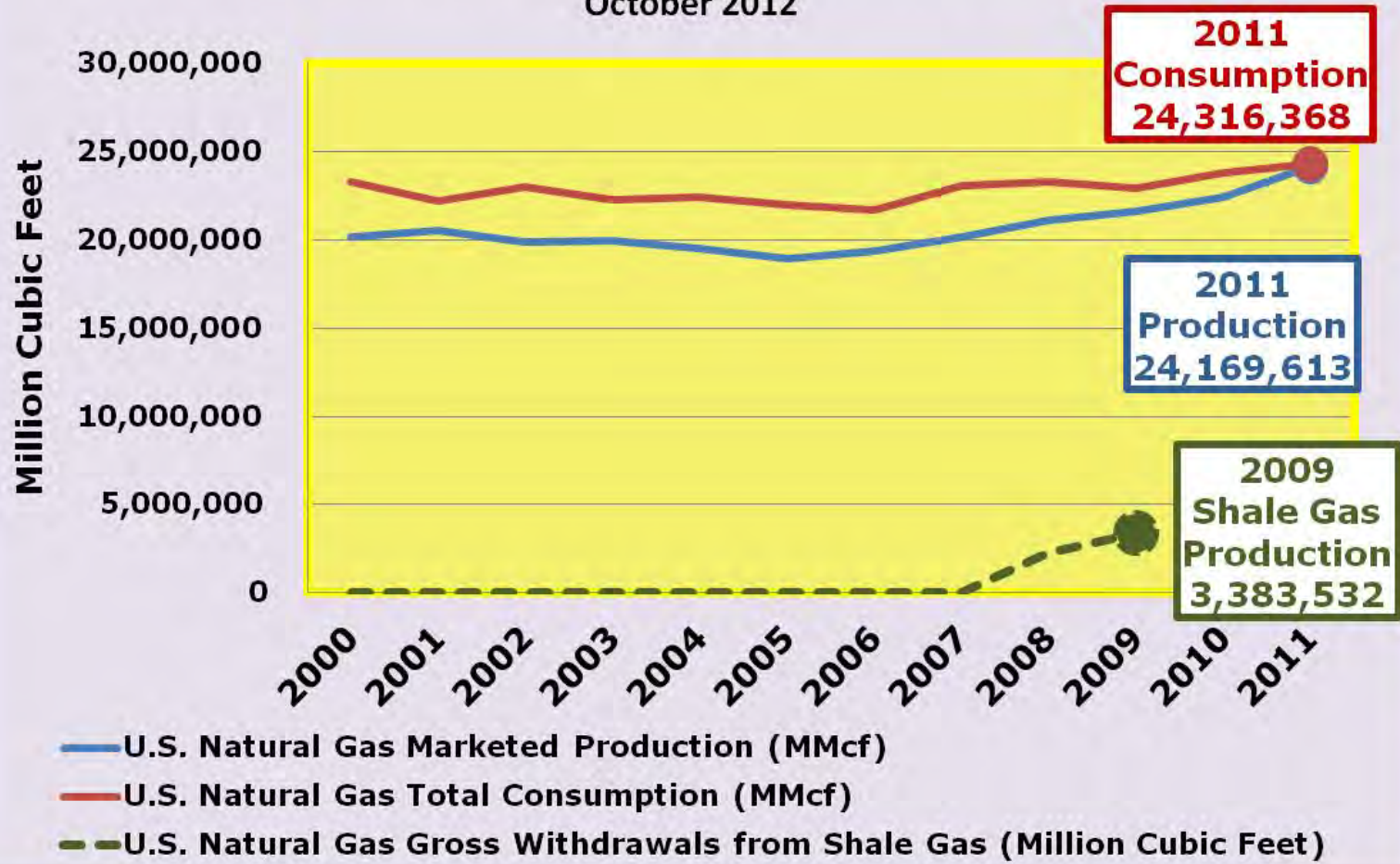
...again, keep in mind that 5% or less of U.S. petroleum exports are in the form of crude oil.

U.S. Exports of Crude Oil and Petroleum Products
 U.S. Department of Energy, Energy Information Administration
 (Thousands of Barrels per Day)
 October 2012



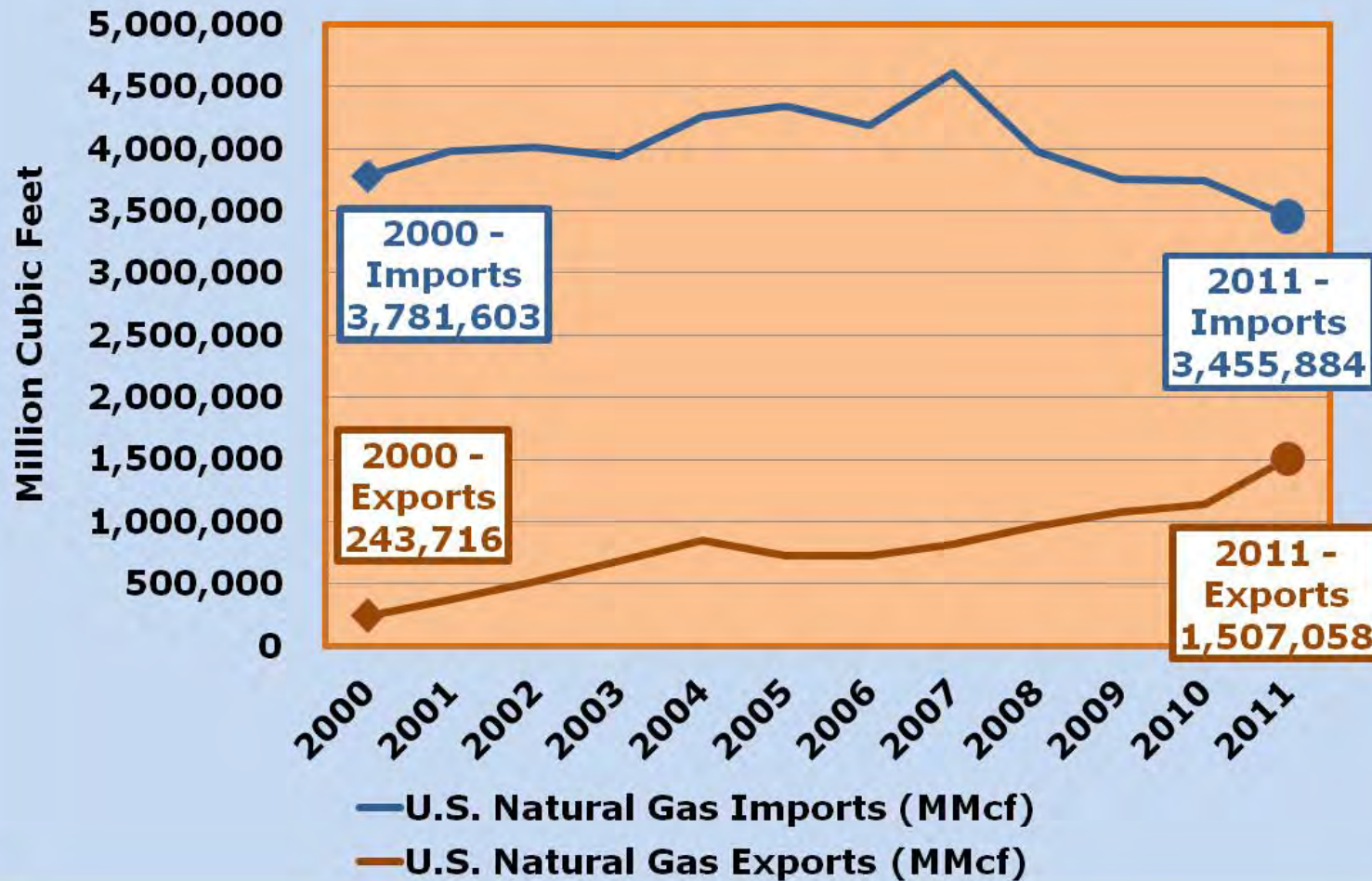
The real success story in the U.S. is the fact that we are virtually energy independent in terms of natural gas production. So long as we can keep the playing field competitive, we are pretty much assured to maintain cheap and plentiful natural gas in the years ahead.

Natural Gas Production/Consumption
SHALE GAS...closing the gap to energy independence in natural gas
 U.S. Department of Energy, Energy Information Administration
 October 2012



Natural Gas Exports/Imports

U.S. Department of Energy, Energy Information Administration
October 2012



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