



Year of the crab?

Oil & Gas Outlook - January 2012

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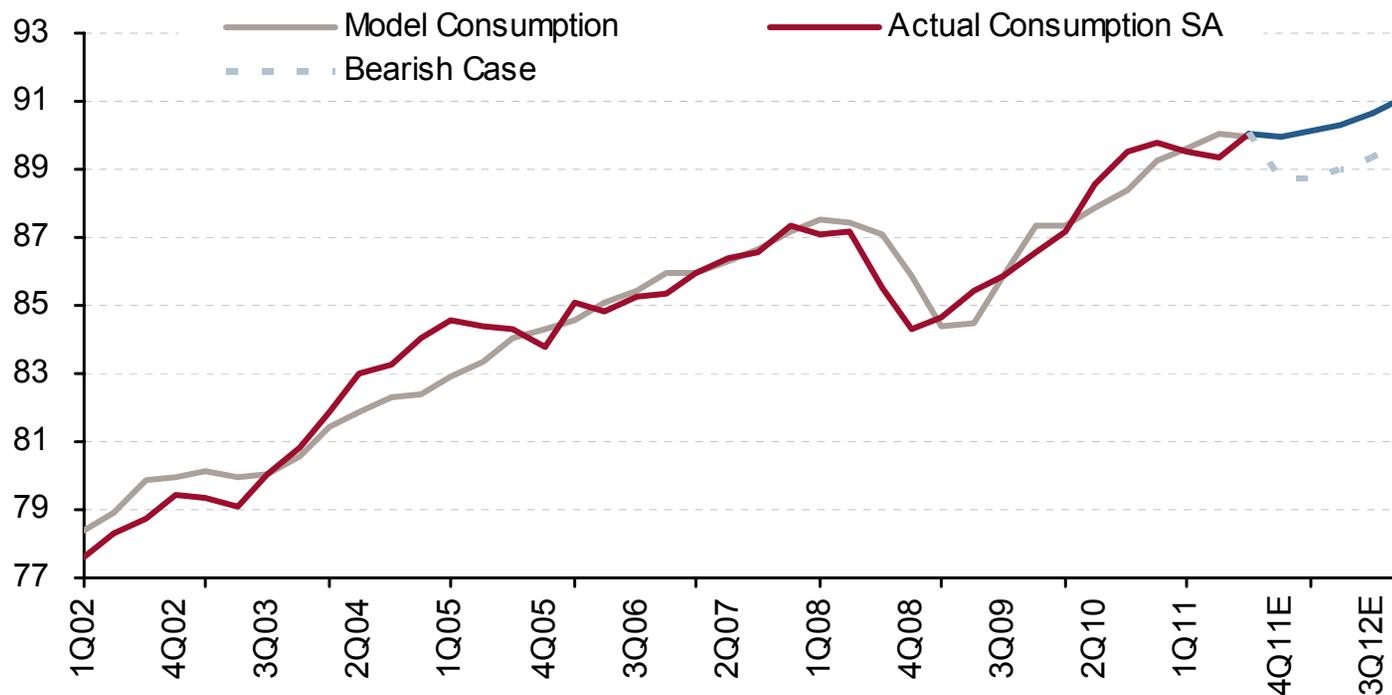
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Outlook and Scenarios for 2012

Global Oil Demand Scenarios

(Million barrels per day)



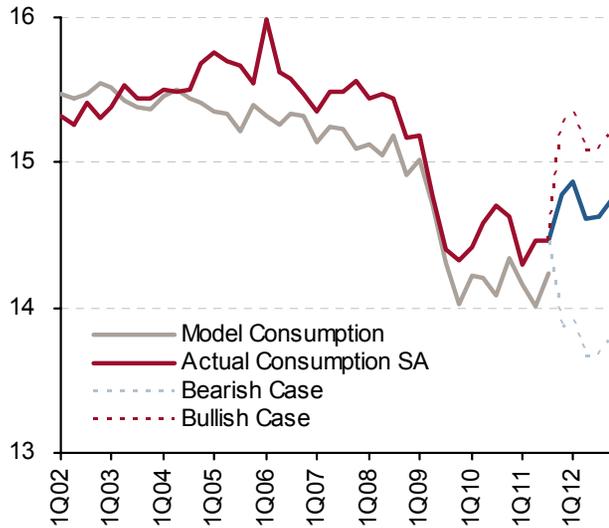
	Base	Bearish
Oil Demand in 2012	91.50 mb/d	90.14 mb/d
Assumption	3.40% ann. GDP growth	- 150 bp
Net diff. from Base	-	-1.36 mb/d
Yoy growth	1.61 mb/d (1.79%)	0.25 kb/d (0.28%)

Source: IEA, Credit Suisse Global Commodities Research

Separate and distinct scenarios by region

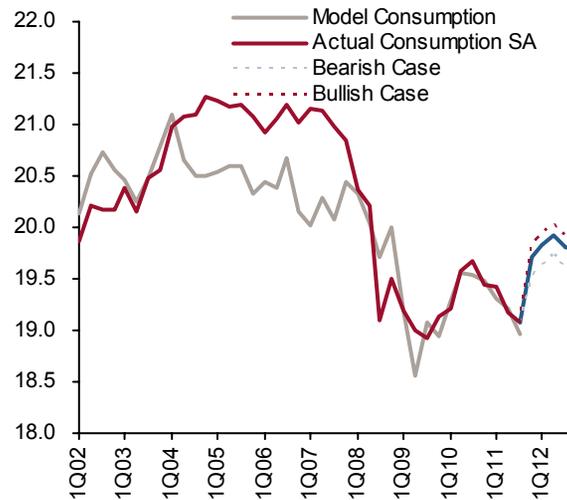
OECD Europe Demand Scenarios

Million barrels per day



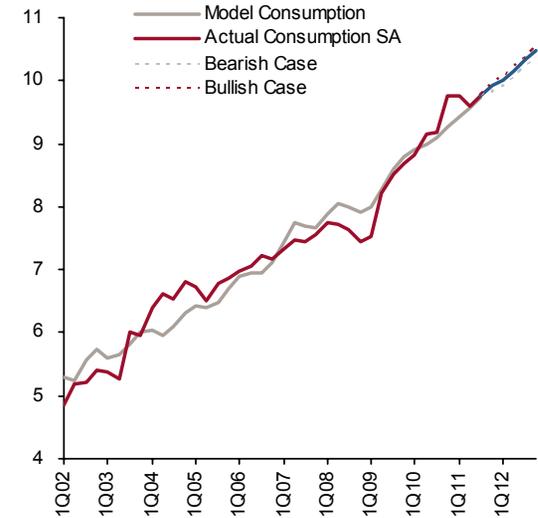
US Demand Scenarios

Million barrels per day



China Demand Scenarios

Million barrels per day



Base case																		
Oil Forecasts (US\$/b)	2010*	Q1*	Q2*	2011			2012					2013					2014	Long term
				Q3*	Q4*	Yr Avg.	Q1 (f)	Q2 (f)	Q3 (f)	Q4 (f)	Yr Avg (f)	Q1 (f)	Q2 (f)	Q3 (f)	Q4 (f)	Yr Avg (f)	Yr Avg (f)	(real)
Brent	83.13	101.27	116.99	112.09	109.54	109.97	100.00	100.00	110.00	110.00	105.00	105.00	115.00	120.00	120.00	115.00	120.00	90.00
WTI	79.61	94.60	102.34	89.54	92.18	90.70	90.00	92.00	106.00	108.00	99.00	103.00	113.00	118.00	118.00	113.00	117.75	84.00
WTI - Brent Spread	-3.52	-6.67	-14.65	-22.55	-17.36	-19.27	-10.00	-8.00	-4.00	-2.00	-6.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.25	-6.00
Bullish outcome																		
Oil Forecasts (US\$/b)	2010*	Q1*	Q2*	2011			2012					2013					2014	Long term
				Q3*	Q4*	Yr Avg.	Q1 (f)	Q2 (f)	Q3 (f)	Q4 (f)	Yr Avg (f)	Q1 (f)	Q2 (f)	Q3 (f)	Q4 (f)	Yr Avg (f)	Yr Avg (f)	(real)
Brent	83.13	101.27	116.99	112.09	109.64	110.00	115.00	120.00	120.00	115.00	117.50	115.00	120.00	120.00	120.00	118.75	120.00	90.00
WTI	79.61	94.60	102.34	89.54	92.28	90.73	105.00	112.00	116.00	113.00	111.50	113.00	118.00	118.00	118.00	116.75	117.75	84.00
Same WTI diffs as in base	-3.52	-6.67	-14.65	-22.55	-17.36	-19.27	-10.00	-8.00	-4.00	-2.00	-6.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.25	-6.00
Bearish outcome																		
Oil Forecasts (US\$/b)	2010*	Q1*	Q2*	2011			2012					2013					2014	Long term
				Q3*	Q4*	Yr Avg.	Q1 (f)	Q2 (f)	Q3 (f)	Q4 (f)	Yr Avg (f)	Q1 (f)	Q2 (f)	Q3 (f)	Q4 (f)	Yr Avg (f)	Yr Avg (f)	(real)
Brent	83.13	101.27	116.99	112.09	109.64	110.00	70.00	80.00	80.00	90.00	80.00	100.00	100.00	110.00	110.00	115.00	115.00	90.00
WTI	79.61	94.60	102.34	89.54	92.28	90.73	60.00	72.00	76.00	88.00	74.00	98.00	98.00	108.00	108.00	113.00	112.75	84.00
Same WTI diffs as in base	-3.52	-6.67	-14.65	-22.55	-17.36	-19.27	-10.00	-8.00	-4.00	-2.00	-6.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.25	-6.00

Source: the BLOOMBERG PROFESSIONAL™ service, NBS, Federal Reserve, Credit Suisse

Oil: Will S/D fundamentals start to reassert themselves?

Oil market worries should include the supply side as well

Currently top of the worry list are exports of about 2.3 million barrels a day from Iran
The Strait of Hormuz, a key chokepoint of Mideast oil exports

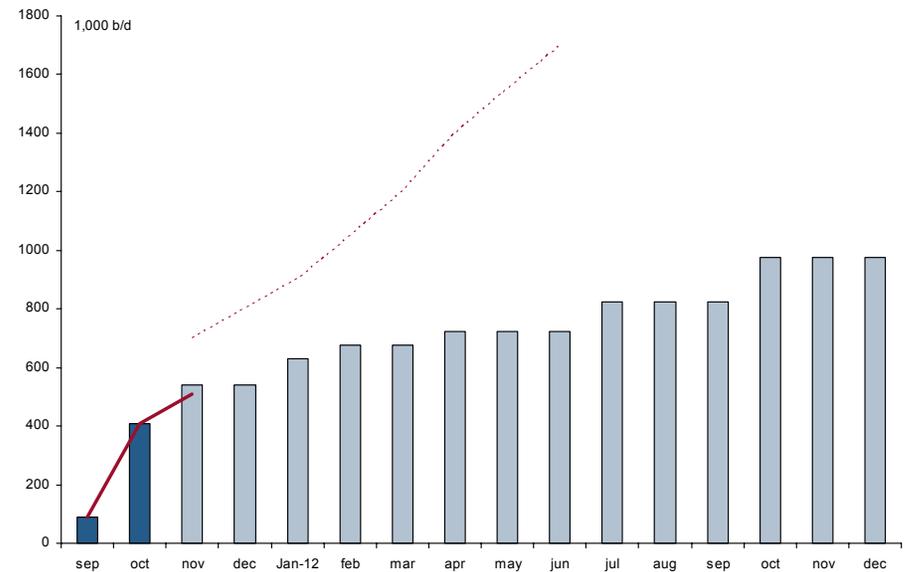


Source: EIA

Libyan oil infrastructure and production outlook



Central Libya Oil fields were the most affected and represent most of Libyan production

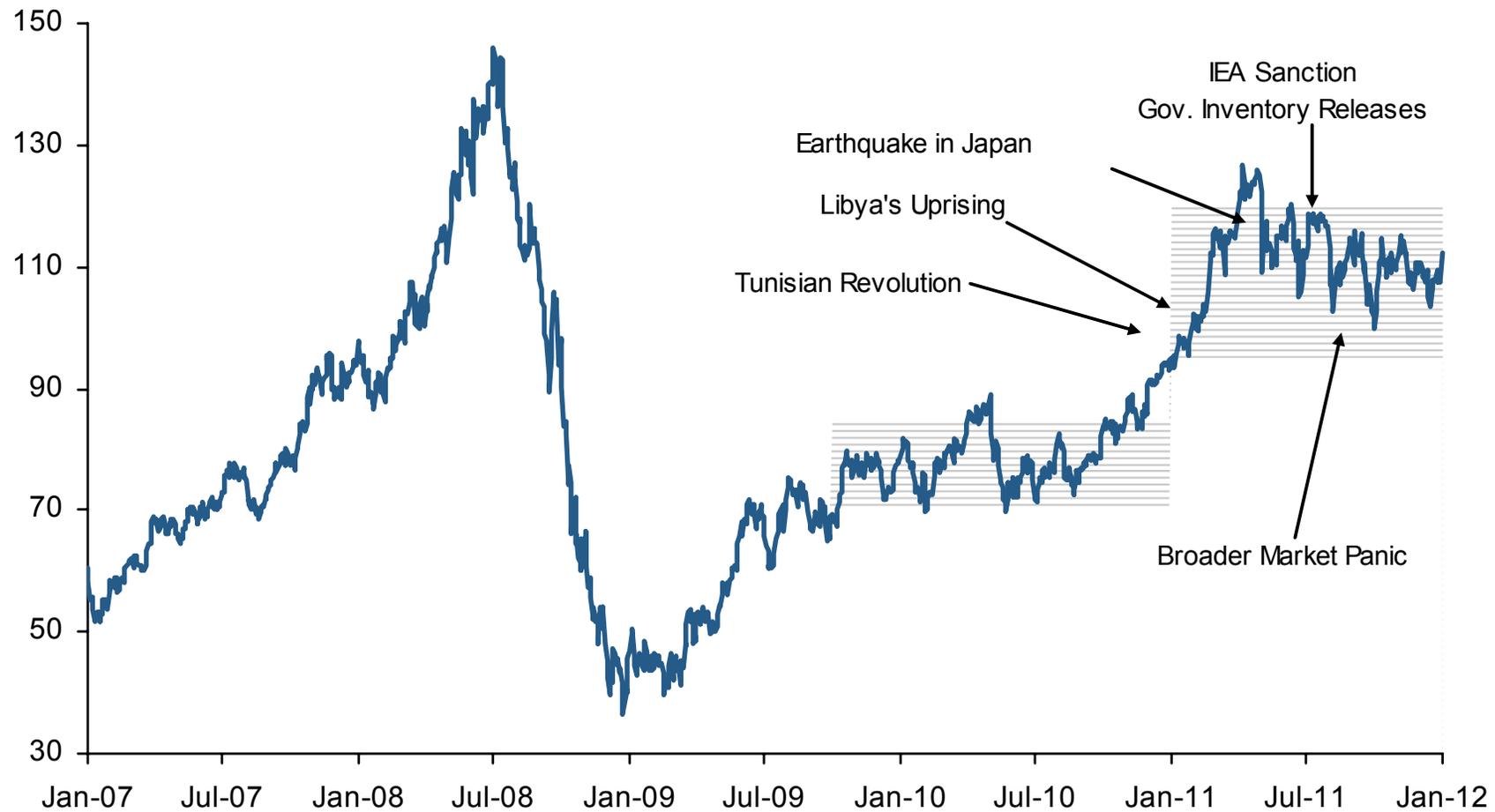


Source: the BLOOMBERG PROFESSIONAL™ service, JODI, PIRA, Credit Suisse Global Commodities Research

Brent oil prices in 2012 – Year of the crab: Moving sideways?

Brent Price

\$/b (Jan-07 – Present)



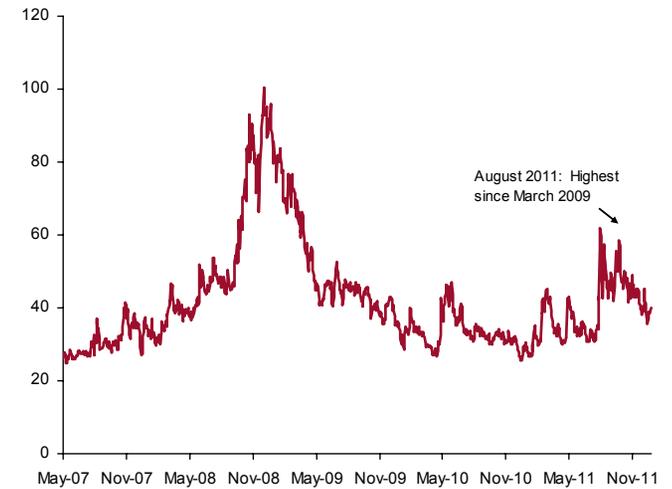
Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse Global Commodities Research

Fundamentals remain robust

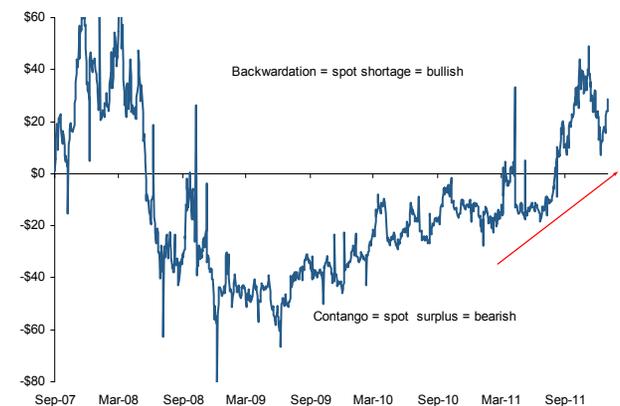
Brent Oil Futures, month 1 vs. month 6



OVX Index



Gasoil Oil Futures Month 1 vs. month 6, \$/ton



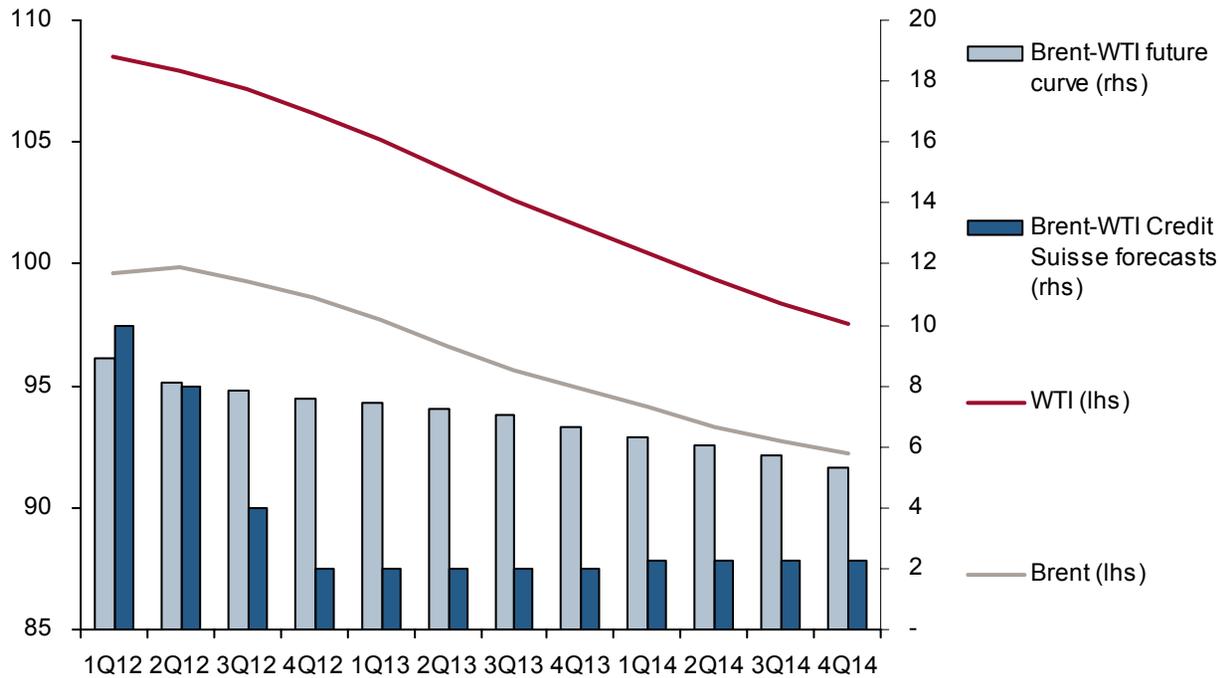
- The Brent spread between the first-month and sixth-month contracts best reflects the state of short-term global oil supply and demand.
- Oil volatility has hit two-year highs, reflecting a return to extreme uncertainties and high trade correlations.

Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse Global Commodities Research

Price forecasts

	2010*	2011					2012					2013					2014	Long term
		Q1*	Q2*	Q3*	Q4 (f)	Yr Avg (f)	Q1 (f)	Q2 (f)	Q3 (f)	Q4 (f)	Yr Avg (f)	Q1 (f)	Q2 (f)	Q3 (f)	Q4 (f)	Yr Avg (f)	Yr Avg (f)	(real)
Base Case																		
previous		101.27	116.99	112.09	100.00	107.60	100.00	100.00	110.00	110.00	105.00	105.00	115.00	120.00	120.00	110.00	120.00	90.00
Brent (US\$/bbl)	83.13	101.27	116.99	112.09	109.64	110.00	100.00	100.00	110.00	110.00	105.00	105.00	115.00	120.00	120.00	115.00	120.00	90.00
Consensus*					108.50		108.15	110.00	112.00	115.00	111.29	111.30					115.00	
Fwd Curve*					109.40		108.30	107.54	106.48	105.33	106.91	104.02					97.80	
	2010*	2011					2012					2013					2014	Long term
		Q1*	Q2*	Q3*	Q4 (f)	Yr Avg (f)	Q1 (f)	Q2 (f)	Q3 (f)	Q4 (f)	Yr Avg (f)	Q1 (f)	Q2 (f)	Q3 (f)	Q4 (f)	Yr Avg (f)	Yr Avg (f)	(real)
previous		94.60	102.34	89.54	75.00	90.37	80.00	86.00	90.00	88.00	91.00	90.00	105.00	116.00	116.00	102.25	115.50	84.00
WTI (US\$/bbl)	79.61	94.60	102.34	89.54	92.18	90.70	90.00	92.00	106.00	108.00	99.00	103.00	113.00	118.00	118.00	113.00	117.75	84.00
Consensus*					90.00		92.50	96.50	100.00	101.50	97.63	106.50					113.00	
Fwd Curve*					94.61		100.43	100.13	99.31	98.35	99.56	97.23					92.64	
Previous							-20.00	-14.00	-20.00	-22.00	-14.00	-15.00	-10.00	-4.00	-4.00	-7.75	-4.50	-6.00
WTI - Brent Spread (US\$/bbl)	-3.52	-6.67	-14.65	-22.55	-17.46	-19.30	-10.00	-8.00	-4.00	-2.00	-6.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.25	-6.00

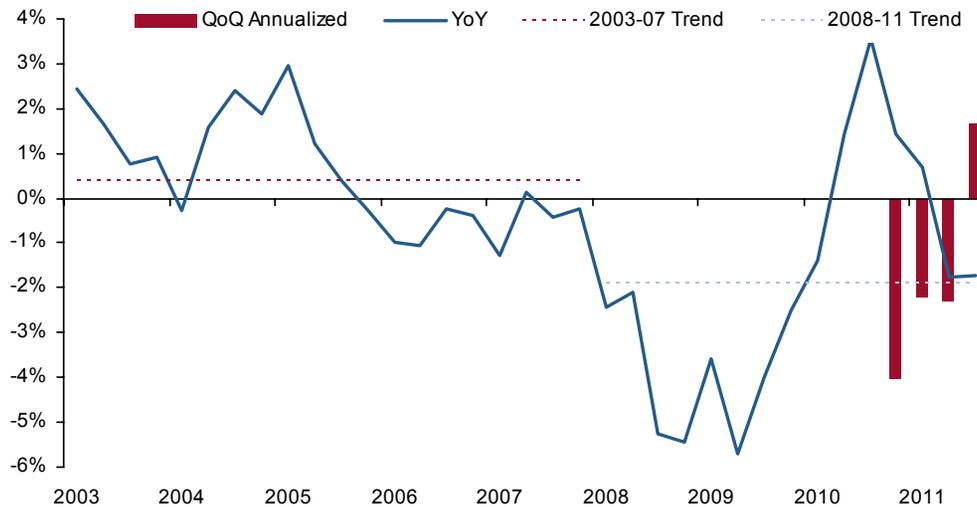
WTI vs. Brent Differential
Bloomberg Forward Curve vs. CS projection



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse Global Commodities Research

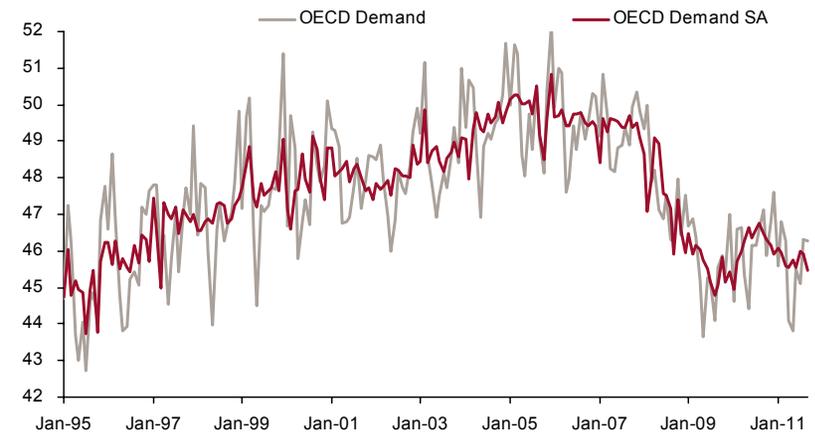
Europe and the US drove OECD demand down, now what's next?

A weak recovery gets back on track? (SA, Quarterly)



OECD oil demand peaked in 2005, with the beginning of the end of the US housing boom. The subsequent deep recession and the impact of the global credit crunch reset OECD oil demand 10% below the 2005 peak by early 2009. From that low, any recovery is proving rather feeble and tentative.

OECD oil use reset in 2008-2009 (mb/d)

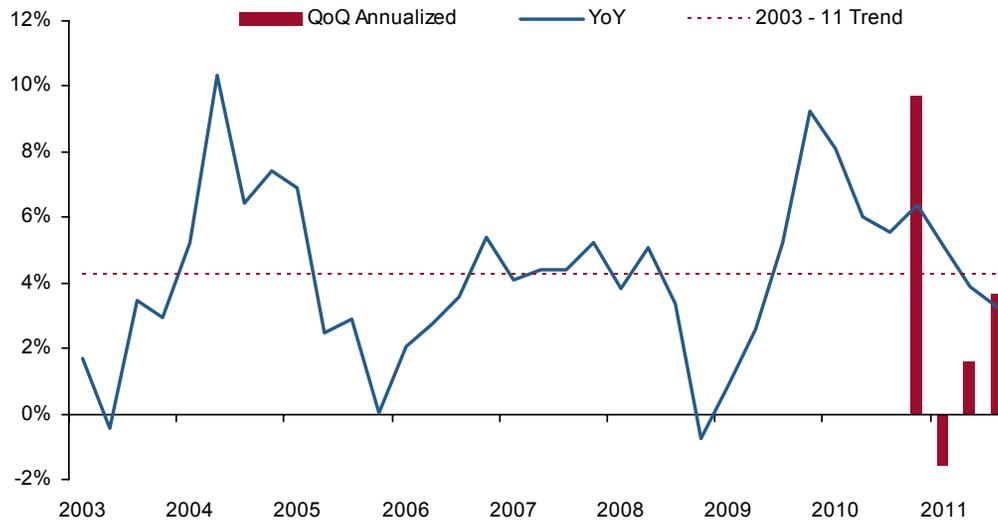


Source: IEA, Credit Suisse Global Commodities Research

Resilient non-OECD demand growth

This year's slow start in context

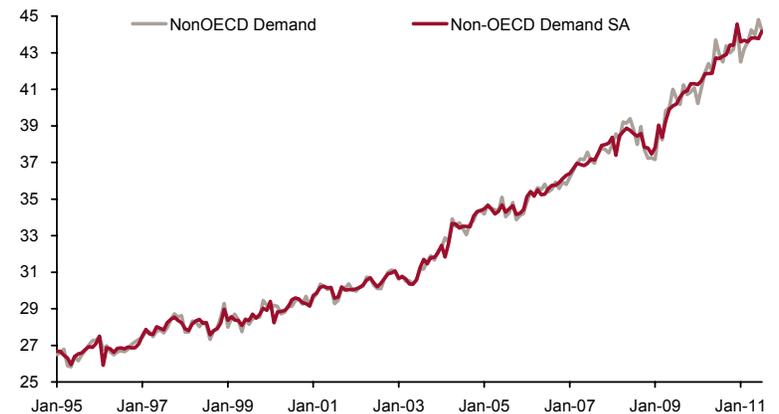
(SA, Quarterly)



The pictures for oil demand and momentum across emerging markets could not be more different. They are at the core of our underlying bullishness.

Despite the incipient recessionary pressures across the OECD economies, oil consumption across EMs is booming. Bigger picture, the credit crunch or “Great Recession” of three years ago was but a dip. Two-plus years of monthly data show that trend growth is accelerating.

EM Oil Use Since 1995. Growth Accelerates (mb/d)



Source: IEA, Jodi, Credit Suisse Global Commodities Research

Demand – Resilient growth across EM stands out in data

Oil demand by economy and region

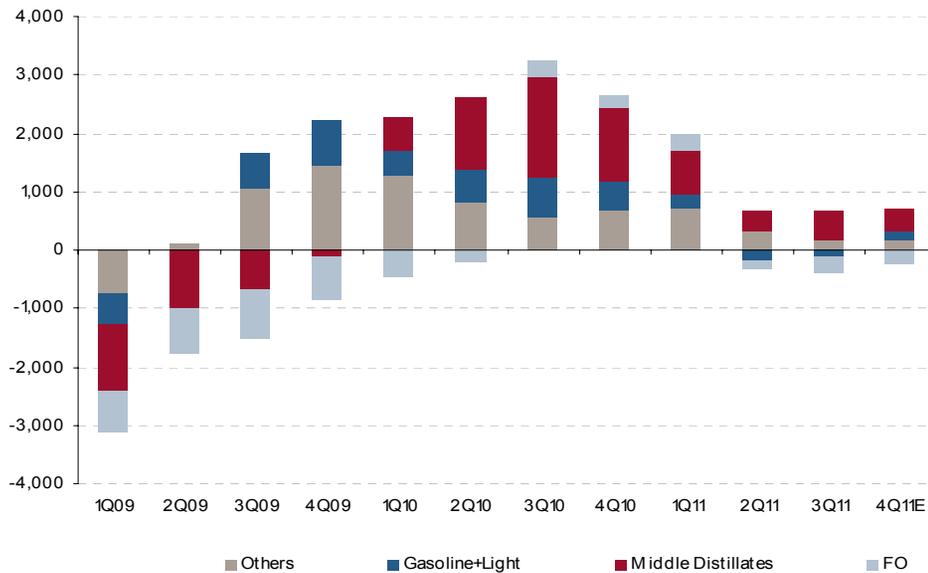
(% YoY Growth, actuals through September for most)

	Base (1,000 b/d)	by quarter (2011-12)								by year (2010-12)			Trend
	2010	1Q11	2Q11	3Q11	4Q11E	1Q12E	2Q12E	3Q12E	4Q12E	2010	2011E	2012E	2003-07
Global	88,851	2.7%	0.8%	0.7%	0.9%	1.8%	1.8%	1.8%	1.9%	3.7%	1.2%	1.8%	2.0%
OECD	46,153	0.6%	-1.9%	-1.6%	-1.2%	-0.1%	-0.1%	0.2%	0.1%	1.2%	-1.0%	0.0%	0.6%
Emerging Markets	42,699	5.1%	3.6%	3.2%	3.1%	3.8%	3.7%	3.5%	3.7%	6.6%	3.7%	3.7%	4.1%
N America	23,757	1.2%	-2.0%	-2.4%	-1.1%	-1.0%	-0.7%	0.0%	0.1%	2.0%	-1.1%	-0.4%	1.1%
Canada	2,208	4.5%	-0.7%	0.6%	0.3%	0.8%	0.9%	0.9%	0.8%	2.3%	1.1%	0.8%	2.1%
Mexico	2,073	-2.2%	-2.6%	1.8%	3.4%	2.3%	2.3%	2.4%	2.3%	0.1%	0.1%	2.3%	1.5%
USA	19,180	1.2%	-2.1%	-3.3%	-1.8%	-1.6%	-1.2%	-0.3%	-0.3%	2.2%	-1.5%	-0.9%	0.9%
S America	6,440	3.9%	2.6%	2.0%	3.4%	2.6%	2.5%	2.7%	2.7%	5.7%	3.0%	2.6%	3.4%
Brazil	2,915	4.5%	2.5%	1.2%	3.5%	3.0%	2.6%	2.8%	2.9%	9.7%	2.9%	2.8%	2.1%
Europe	15,316	-0.8%	-0.9%	-1.5%	-2.5%	-0.3%	-0.1%	-0.2%	-0.2%	-0.5%	-1.4%	-0.2%	0.3%
France	1,861	-2.4%	-1.8%	0.3%	0.1%	-2.2%	-1.5%	-1.9%	-2.2%	-0.5%	-0.9%	-1.9%	-0.1%
Germany	2,495	-1.9%	-2.7%	-3.6%	-2.6%	0.1%	0.4%	0.0%	-0.3%	1.7%	-2.7%	0.0%	-2.2%
Italy	1,528	-2.6%	-2.2%	-6.7%	-3.2%	-0.8%	-0.6%	-0.8%	-0.6%	-1.0%	-3.7%	-0.7%	-1.6%
UK	1,622	-1.2%	0.2%	-1.2%	-1.5%	-0.5%	-0.6%	-0.6%	-0.6%	-1.4%	-0.9%	-0.6%	1.7%
Oth Europe	7,809	0.4%	-0.1%	-0.2%	-3.1%	0.2%	0.3%	0.3%	0.4%	-0.9%	-0.8%	0.3%	0.2%
FSU	4,472	8.3%	7.7%	3.0%	2.0%	2.1%	2.2%	2.6%	2.3%	7.0%	5.1%	2.3%	1.9%
Mideast	7,479	3.8%	3.1%	1.9%	3.3%	3.1%	3.2%	3.3%	3.2%	5.9%	2.9%	3.2%	4.2%
Saudi Arabia	2,707	6.5%	4.1%	0.4%	4.7%	4.9%	4.8%	4.8%	4.7%	7.8%	3.7%	4.8%	5.0%
Iran	1,887	-0.6%	-2.4%	-2.3%	-1.8%	-1.8%	-1.8%	-1.8%	-1.8%	-1.4%	-1.8%	-1.8%	5.8%
Africa	3,423	1.5%	-1.2%	2.1%	2.6%	4.7%	4.8%	4.6%	4.6%	5.4%	1.2%	4.7%	3.2%
Asia-Pac	27,964	4.7%	2.2%	3.4%	2.7%	4.2%	4.0%	3.4%	3.5%	5.8%	3.2%	3.8%	3.2%
China	9,239	10.6%	4.5%	6.3%	3.3%	5.3%	5.9%	5.8%	6.1%	12.1%	6.0%	5.8%	7.7%
India	3,319	4.8%	3.9%	3.3%	3.6%	3.3%	3.5%	3.8%	3.7%	1.3%	3.9%	3.6%	4.6%
Japan	4,452	0.7%	-3.6%	-0.7%	1.6%	3.3%	3.0%	1.3%	1.1%	1.3%	-0.4%	2.2%	-1.1%
S Korea	2,251	1.8%	-6.3%	2.5%	-0.4%	2.1%	1.1%	2.6%	0.7%	2.9%	-0.6%	1.7%	0.8%

Source: IEA, EIA, Jodi, Credit Suisse

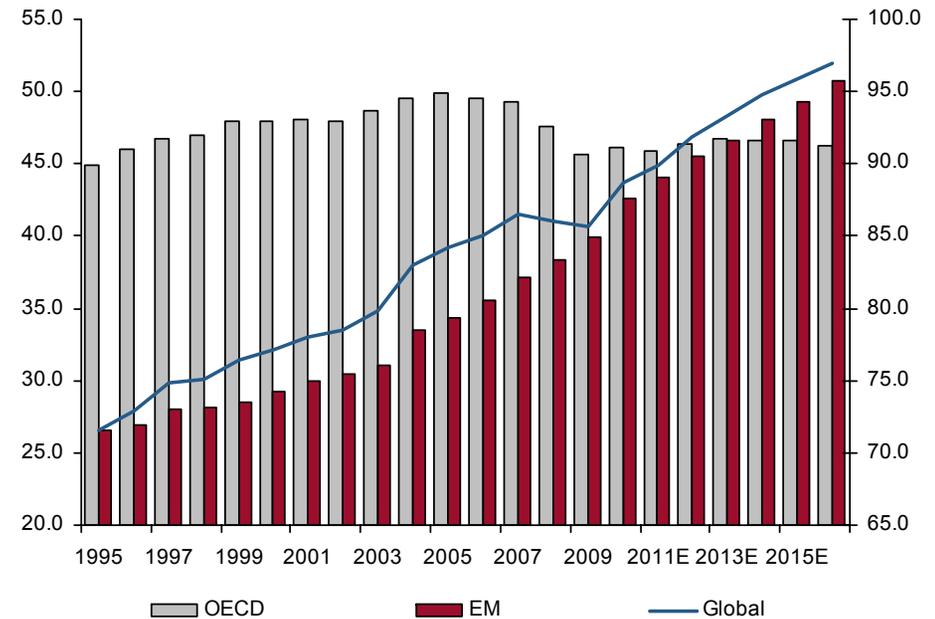
At the core of demand growth are middle distillates (jet & diesel mostly)

Global demand growth by product shows the strength of diesel and jet
(mb/d)



Source: IEA, EIA, JODI, Credit Suisse Global Commodities Research

Global oil demand
(mb/d)

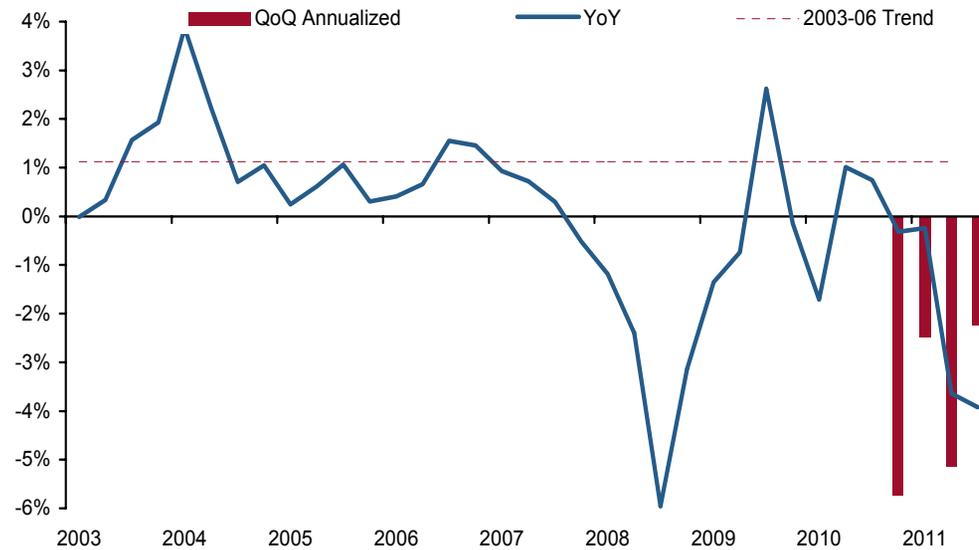


Source: IEA, Credit Suisse Global Commodities Research

Weakness in the US is all about gasoline and the consumer

Negative momentum of US gasoline use

(SA, Quarterly)

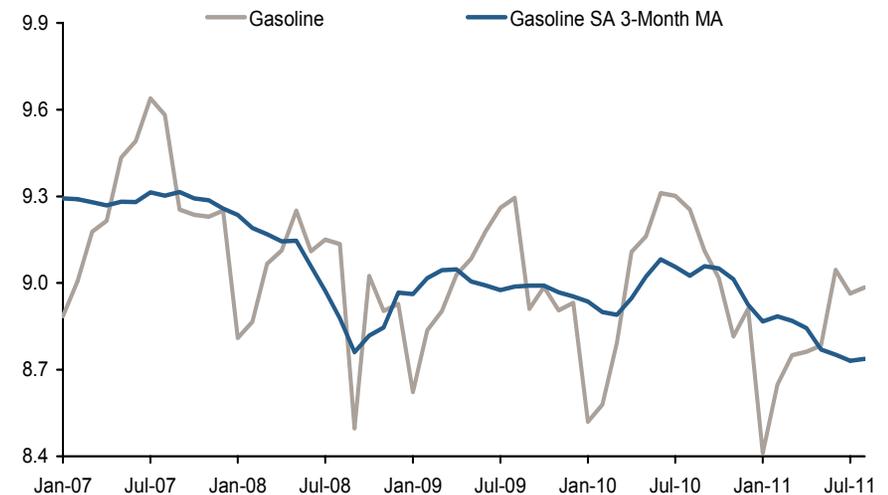


The world's biggest single oil product market, gasoline, has contracted very sharply of late.

We think that it is too early for efficiency gains to bear much responsibility for that decline, but at the margin, smaller, lighter, and sometimes smarter cars are beginning to make small differences.

US gasoline demand loses traction

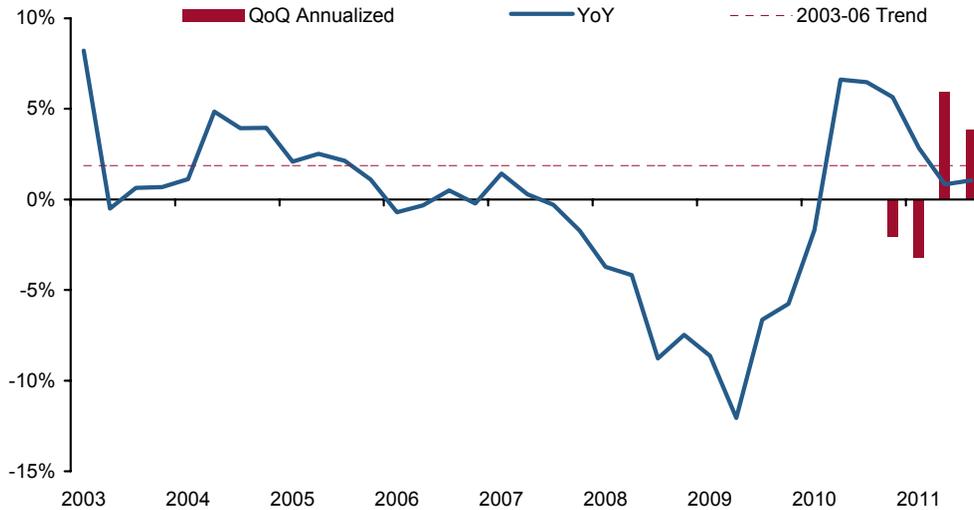
(mb/d)



Source: EIA, Credit Suisse Global Commodities Research

The middle distillate pool looked healthier, until recently?

Two quarters of momentum strength (SA, Quarterly)

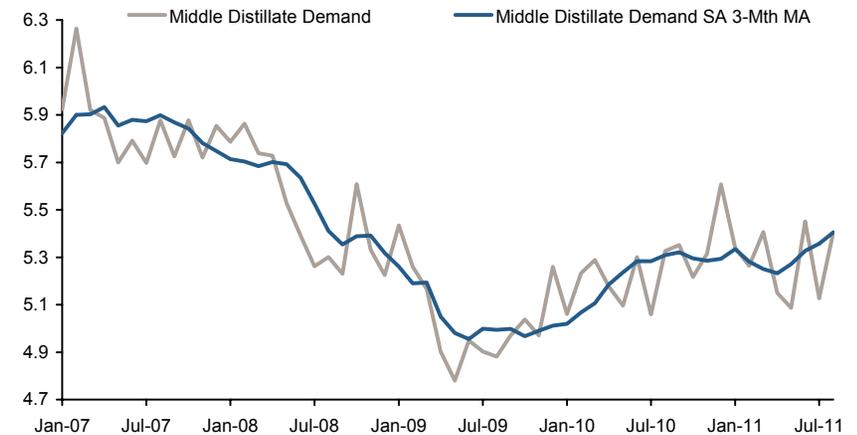


As for the world's second-largest product market, the combination of US diesel, jet fuel, and heating oil is recovering steadily, if sluggishly, from the troughs reached during the 2007-2009 recession.

Revision between US weekly and monthly data

	September			October		
	Monthly %yoy	Wkly %yoy	Diff kb/d	Monthly %yoy	Wkly %yoy	Diff kb/d
Mogas	-3.9%	-2.7%	-110	-4.4%	-0.7%	-330
Jet	-2.4%	2.5%	-70	-5.5%	-1.9%	-50
Gasoil	1.1%	0.8%	10	4.5%	5.6%	-40
Diesel	5.2%	3.7%	50	7.9%	-0.1%	270
H Oil	-28.3%	-31.1%	10	-20.3%	157.6%	-800
Fuel Oil	-6.0%	2.5%	-40	-17.8%	16.9%	-170
Other	-10.1%	1.1%	-240	-4.8%	-7.6%	50
Total	-3.3%	-0.9%	-470	-2.2%	-0.5%	-310

US mid-distillate use a weak recovery (mb/d)

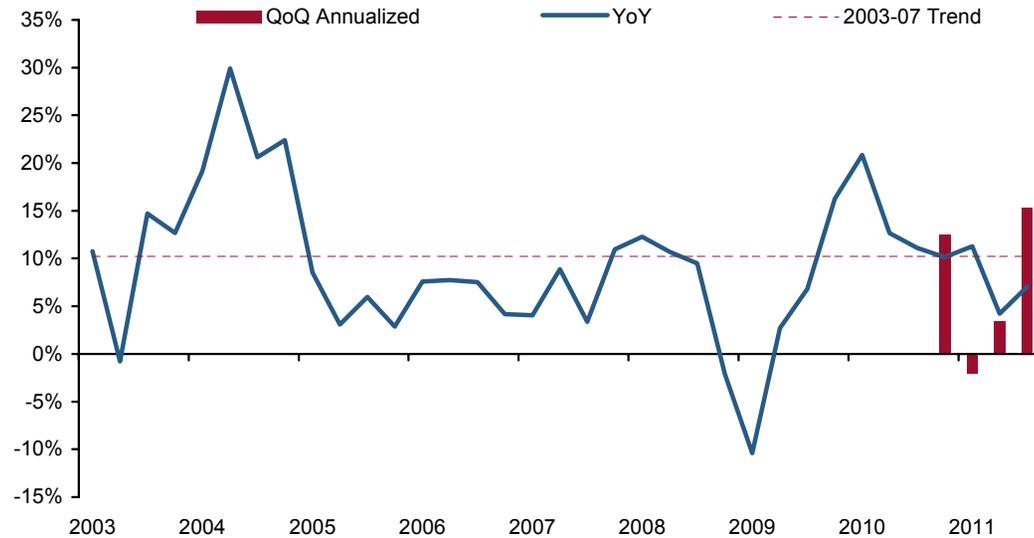


Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse Global Commodities Research

China's oil demand growth is NOT slowing down

Despite a weak 1Q, growth is strong

(SA, Quarterly)



China and other emerging markets are pulling hard. Demand for middle-distillate oil products moves closely with IP and GDP growth in many emerging markets. Even the crisis of late 2008 proved little more than a dip in that trajectory. Better yet, growth has since accelerated.

China's reported oil product demand adjusted for inventory

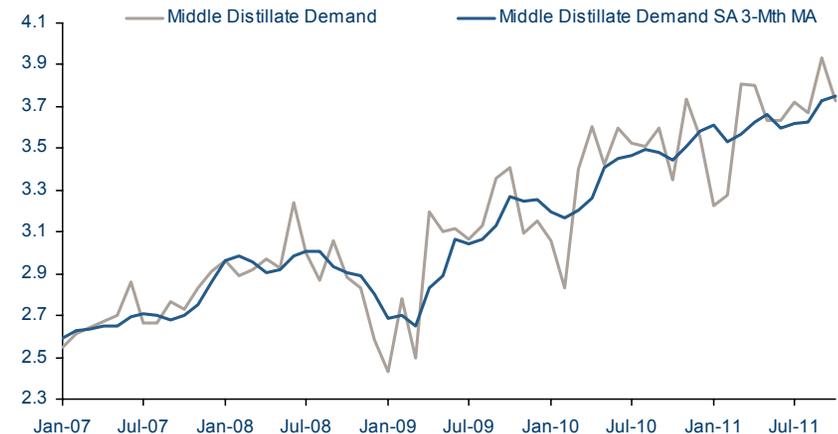
Gasoline, Diesel and Jet

kb/d	2010	2011 ytd	Nov*	YoY change			
				2010 ytd	2011 ytd	Nov*	2011E
Gasoline	1,665	1,782	1,832	1,656	7.6%	7.7%	7.9%
Kerosene	338	375	413	340	10.1%	15.6%	9.7%
Diesel	3,094	3,286	3,418	3,080	6.7%	6.7%	6.6%
MD	3,432	3,661	3,831	3,420	7.0%	7.6%	6.8%
Fuel oil	628	610	516	627	-2.7%	-15.1%	-2.3%
LPG	738	716	734	737	-3.0%	0.2%	-2.6%
Naphtha	937	985	987	931	5.8%	2.3%	5.9%
"Drive"	5,097	5,443	5,663	5,076	7.2%	7.6%	7.1%
"Burn"	2,303	2,311	2,237	2,295	0.7%	-3.0%	0.6%
Total	7,400	7,753	7,900	7,371	5.2%	4.4%	5.1%

* three month rolling average. "Drive" = gasoline + diesel + kerosene

China middle-distillate demand is robust

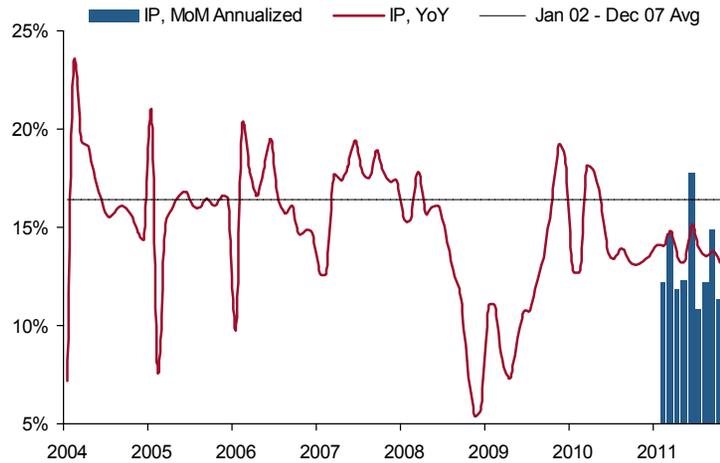
(mb/d)



Source: Chinese Customs, Credit Suisse Global Commodities Research

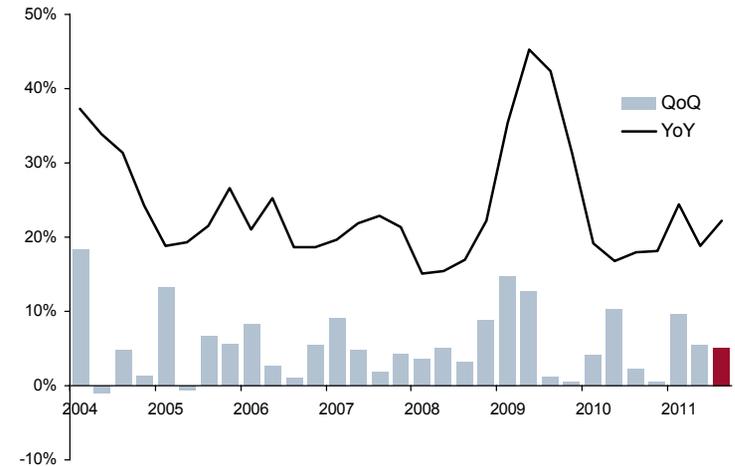
Emerging markets, led by China, should continue to drive demand higher

Chinese IP growth moderated but still solid



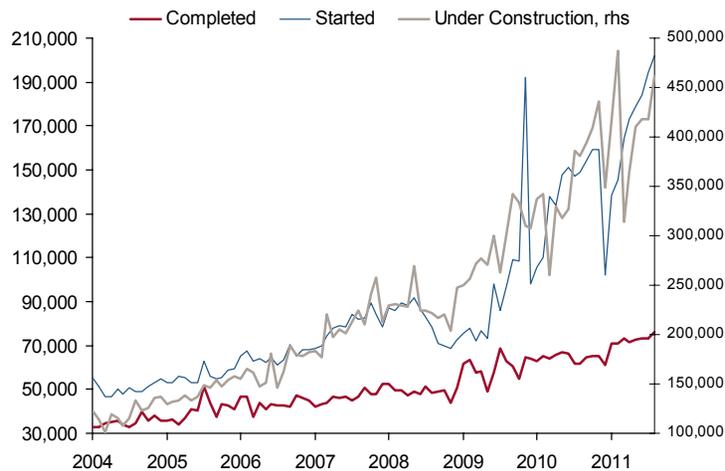
Fixed asset investment growth remains robust

Log(RMB bn), 2011 Q3 estimated based on June & July data



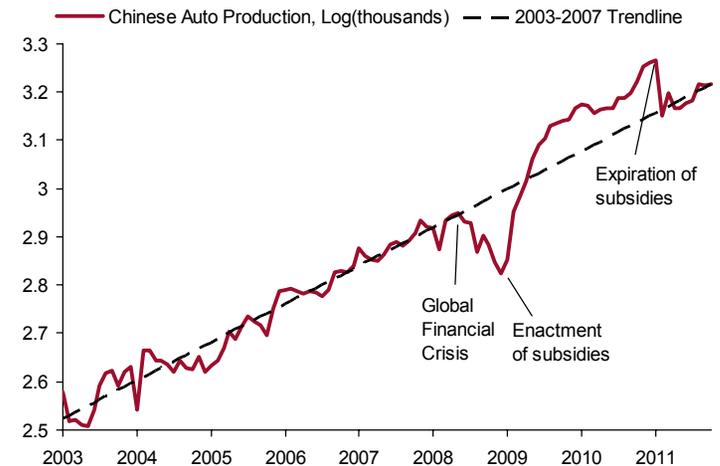
Construction activity being boosted by ramp-up of social housing construction

Thousand m²



Auto Production has rebounded to pre-crisis trend after subsidy expiration induced slowdown earlier in the year

Log(thousands), SA

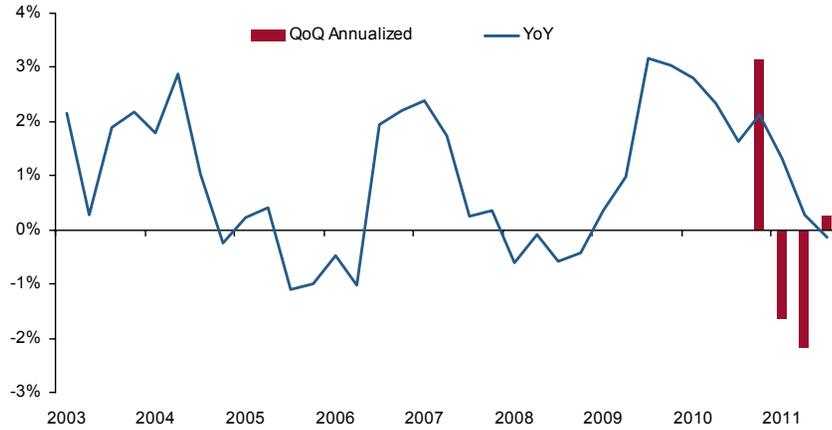


Source: the BLOOMBERG PROFESSIONAL™ service, API, Credit Suisse Global Commodity Research, NBS, CEIC

Oil supply

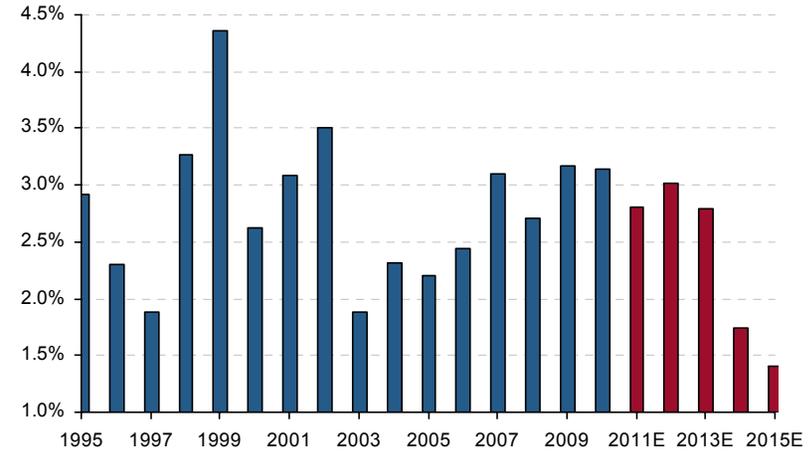
Non-OPEC supply shows decline (structural?)

(SA, Quarterly)

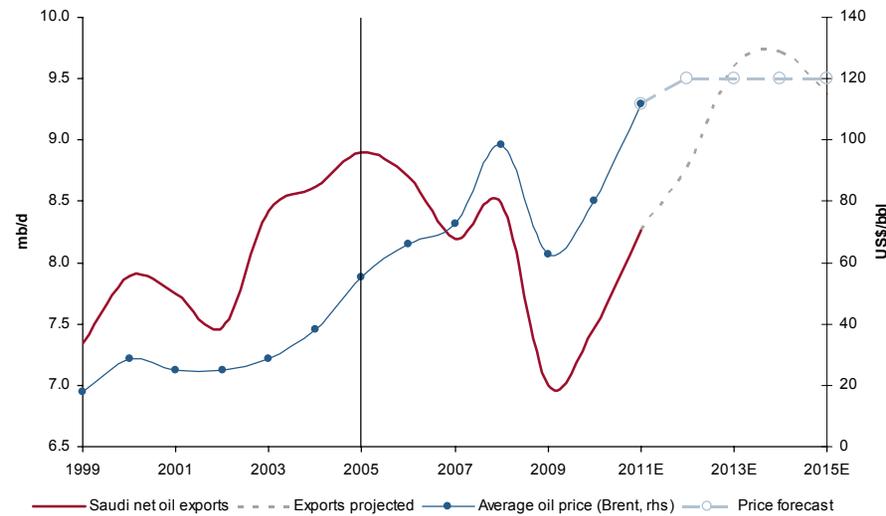


OPEC spare capacity

Strictly defined as a percentage of global production



Saudi Arabia net exports vs. Brent price



Source: JODI, International Institute of Finance, OPEC, Credit Suisse Global Commodities Research

Supply – Another year of living dangerously

Oil supply by region

('000 b/d)

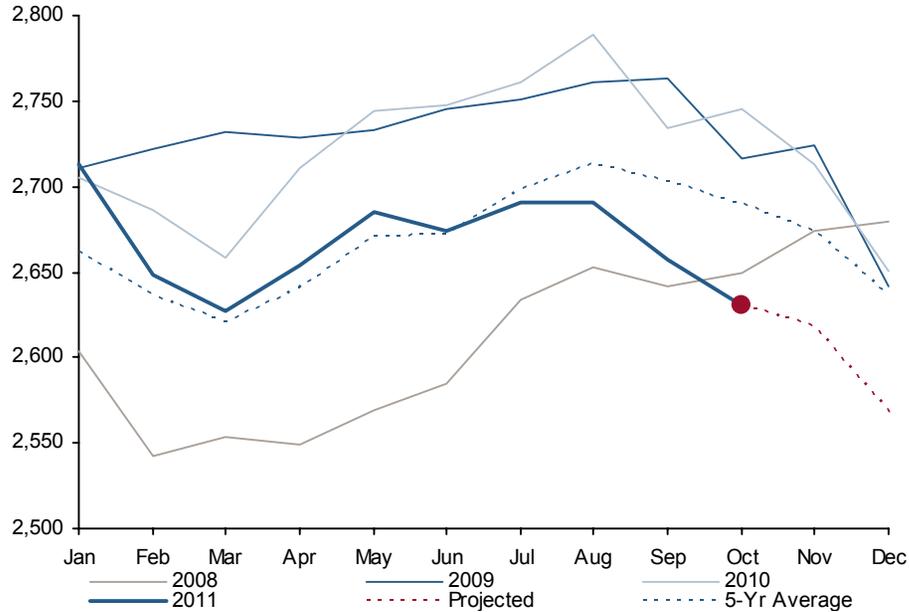
	Base	Y-o-Y Growth by quarter ('000 b/d)							Y-o-Y Growth			Q-o-Q Growth		
	2010	4Q10	1Q11	2Q11	3Q11	4Q11E	1Q12E	2Q12E	2010	2011E	2012E	3Q11	4Q11E	1Q12E
Global Oil	88,340	2,470	1,720	410	560	1,210	930	2,040	2,460	975	1,605	860	1,080	-230
Opec all oil	35,204	1,240	1,070	520	350	1,230	770	1,090	1,205	790	800	370	550	-190
Non Opec	50,472	1,120	530	-230	70	-160	50	840	1,140	50	695	300	570	40
North America	15,648	680	480	480	590	660	410	450	620	555	495	340	330	-200
US	8,659	410	210	540	450	500	310	350	460	425	385	110	180	-200
Canada	3,370	280	270	-90	140	160	170	160	155	120	170	230	180	40
Mexico	2,953	-30	-20	-10	-30	-30	-90	-90	-20	-25	-90	-50	-10	-20
South America	8,115	290	180	-160	-130	-40	10	90	195	-40	40	70	70	10
Venezuela	2,849	130	-40	-140	-160	-100	-150	-130	-15	-110	-130	-30	30	-90
Brazil	2,593	120	90	-80	-80	-90	30	100	120	-40	55	0	40	30
Argentina	694	-70	-10	-100	-40	10	20	40	-40	-35	25	60	0	50
Europe	5,081	-260	-370	-290	-100	-220	-210	-190	-305	-245	-225	-120	290	-120
Norway	2,123	-210	-210	-150	60	-120	-120	-110	-220	-105	-140	30	60	-60
United Kingdom	1,332	-120	-240	-230	-270	-170	-130	-120	-105	-225	-115	-210	220	-30
FSU	13,853	160	210	90	70	-20	90	190	280	90	240	10	-40	160
Russia	10,507	200	150	140	190	130	110	80	240	155	105	60	50	-30
Kazakhstan	1,635	30	50	40	-30	0	20	70	60	15	40	-50	100	30
Azerbaijan	1,025	-90	-20	-100	-140	-190	-100	-30	-20	-110	30	-30	-190	150
Middle east	26,073	1,080	1,700	2,090	2,050	2,500	1,330	540	1,090	2,085	510	430	50	-290
Saudi Arabia	10,169	640	860	960	600	1,200	510	140	665	905	60	150	140	-370
Iran	4,254	10	0	40	200	280	280	100	15	130	115	80	-70	70
UAE	2,965	170	330	330	270	180	160	50	135	275	130	-50	-50	130
Kuwait	2,525	50	150	250	430	510	230	120	45	335	35	190	80	-170
Iraq	2,470	70	240	430	430	310	140	80	20	355	170	-40	0	60
Africa	10,524	100	-550	-1,660	-1,610	-1,360	-630	750	205	-1,300	380	140	380	140
Nigeria	2,472	170	160	300	300	50	-50	-120	240	205	-40	20	-120	-20
Algeria	1,730	80	110	80	0	-70	-80	-40	-95	30	-70	10	-20	-10
Libya	1,768	-10	-670	-1,670	-1,720	-1,280	-460	650	60	-1,335	365	-40	450	160
Angola	1,836	-200	-220	-280	-200	-80	-60	80	-35	-195	35	10	40	10
Asia	9,047	420	80	-130	-310	-320	-70	210	375	-170	160	0	0	80
Indonesia	959	-20	-50	-80	-70	-70	-60	-30	10	-65	-15	-10	-40	0
China	4,105	380	200	100	-80	-290	-130	-40	285	-20	-20	-100	-130	130
India	872	110	50	50	0	0	0	10	80	25	5	-10	20	-30

Source: EIA, IEA, Jodi, Credit Suisse Global Commodities Research

The S/D bottom line: Inventories fall below five-year moving average

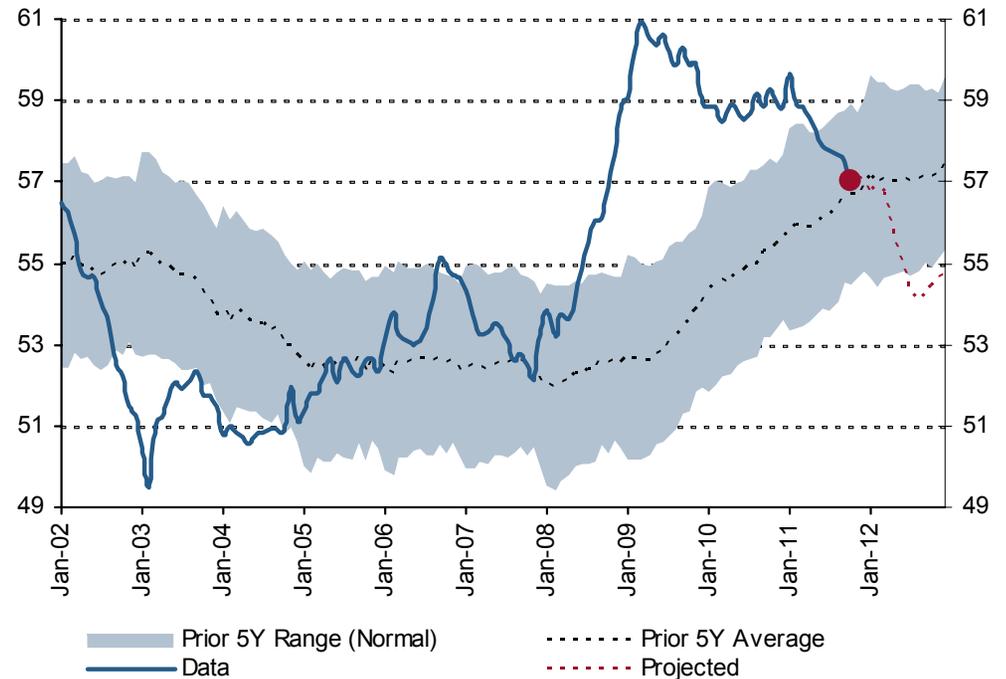
OECD commercial oil inventories

('000 barrels)



Commercial inventory demand cover

(SA, Days of forward demand cover)

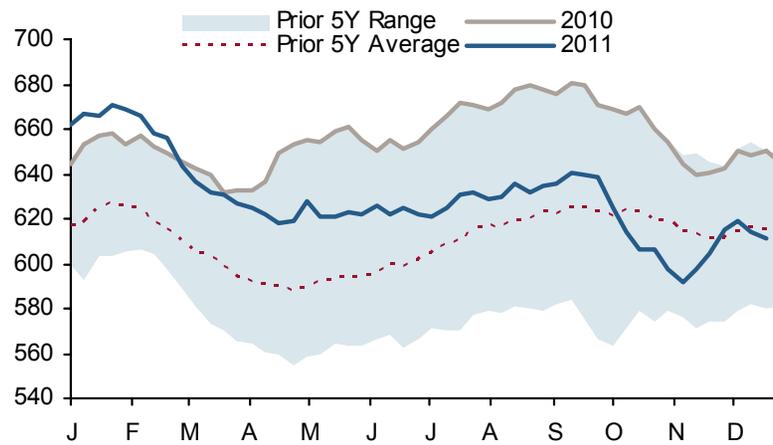


Source: IEA, OPEC, BP's Statistical Review of the World Energy, the BLOOMBERG PROFESSIONAL™ service, Reuters, Credit Suisse Global Commodities Research

Global observed product inventories are below average

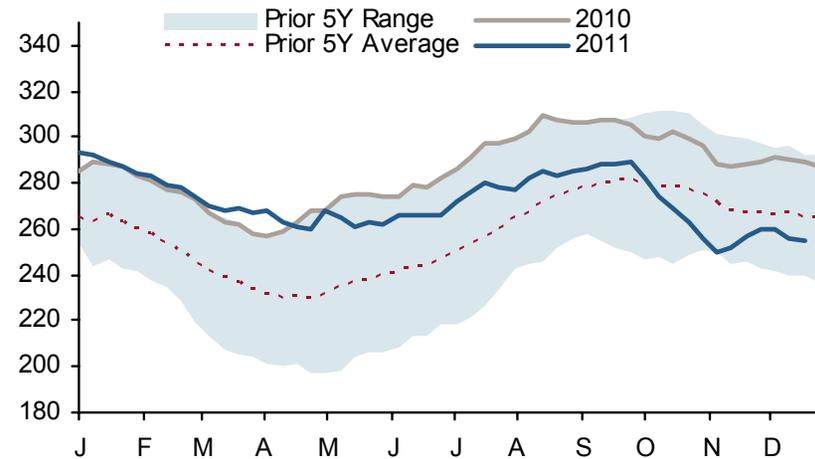
Global product inventory

In high frequency reporting areas – Japan, US, Singapore, ARA, mmb



Global middle distillate inventory

In high frequency reporting areas – Japan, US, Singapore, ARA, mmb



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Oil inventories across the OECD regions

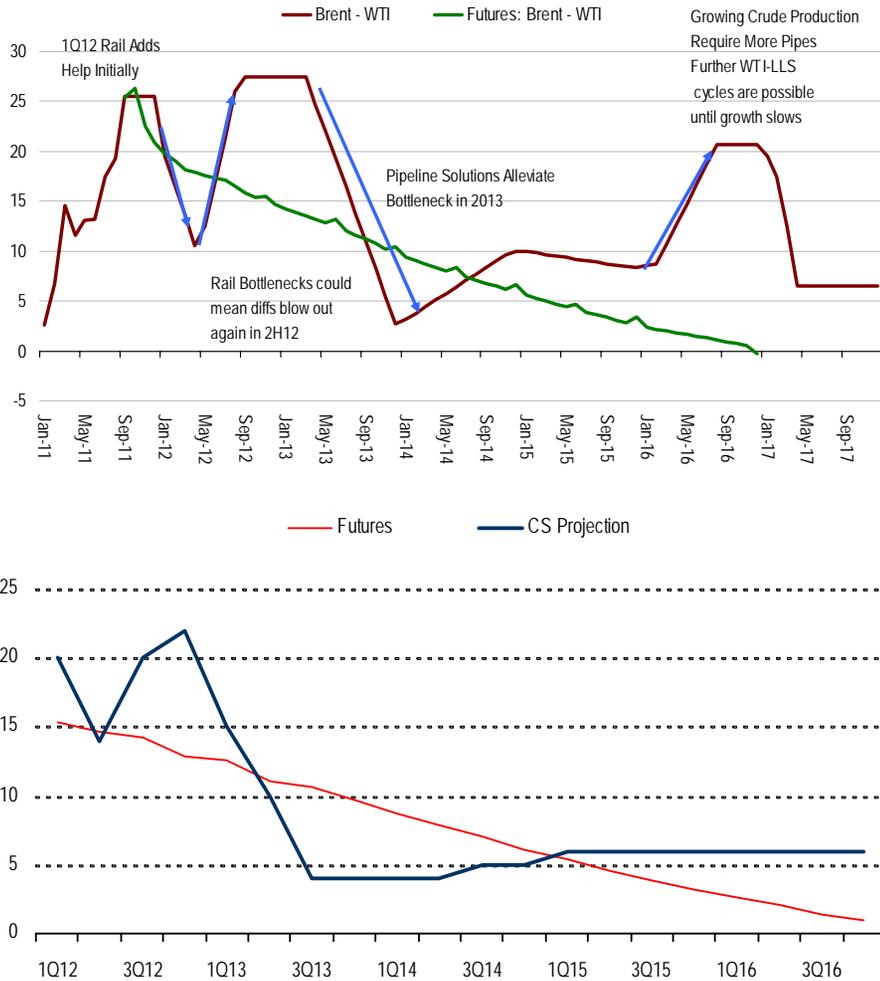
Oil inventories across the OECD regions

End month	Volume					Oct surplus/deficit				Sep	
	Jun	Jul	Aug	Sep	Oct	YoY		5yr		YoY	5yr
OECD	mbls	mbls	mbls	mbls	mbls	mbls	%	mbls	%	mbls	mbls
Crude oil	977	960	949	928	917	-84	-8.4	-43	-4.5	-41	-18
Products	1,697	1,732	1,742	1,729	1,712	-33	-1.9	-19	-1.1	-36	-29
All oil	2,674	2,691	2,691	2,657	2,631	-115	-4.2	-59	-2.2	-77	-47
N America	Jun	Jul	Aug	Sep	Oct	YoY		5yr		YoY	5yr
Crude oil	499	486	484	460	469	-37	-7.4	7	+1.5	-35	5
Products	835	870	872	861	849	-22	-2.5	-6	-0.8	-30	-9
Gasoline	248	250	246	250	255	15	+6.1	19	+7.8	-2	10
Mid distillate	213	231	230	231	234	-2	-0.8	9	+4.1	-16	11
Europe	Jun	Jul	Aug	Sep	Oct	YoY		5yr		YoY	5yr
Crude oil	318	310	311	308	293	-43	-12.9	-37	-11.1	-11	-19
Products	616	613	616	608	604	-19	-3.0	-10	-1.6	-19	-14
Gasoline	92	92	91	90	89	-8	-8.0	-8	-8.7	-4	-6
Mid distillate	274	272	270	265	264	-17	-5.9	-6	-2.3	-24	-5
Asia Pacific	Jun	Jul	Aug	Sep	Oct	YoY		5yr		YoY	5yr
Crude oil	160	164	155	160	154	-1	-0.5	-13	-7.9	5	-5
Products	245	248	253	259	258	7	+2.7	-3	-1.0	12	-5
Gasoline	25	25	25	29	28	3	+13.6	5	+19.4	4	5
Mid distillate	65	67	71	70	75	6	+9.4	-2	-2.1	6	1

Source: IEA, OPEC, BP's Statistical Review of the World Energy, the BLOOMBERG PROFESSIONAL™ service, Reuters, Credit Suisse Global Commodities Research

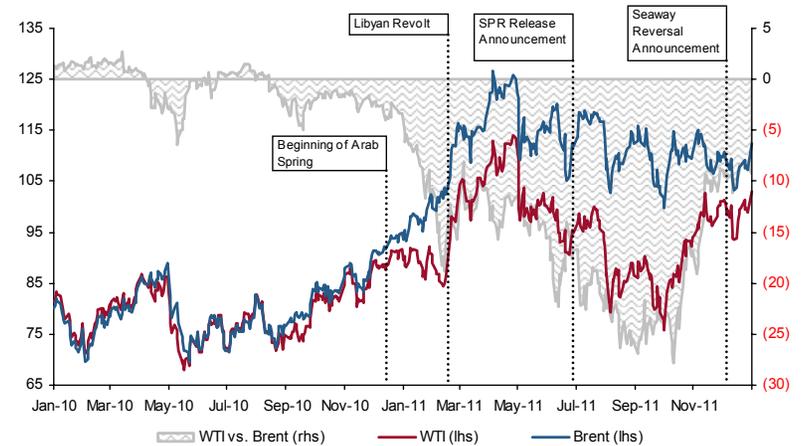
Brent WTI differentials – Losing a global benchmark

Illustrative outlook for WTI-Brent depending on the timing of rail/pipeline capacity additions



WTI-Brent spread reached record high in early September

(\$/b, January 2010 to present)



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse Global Commodities Research

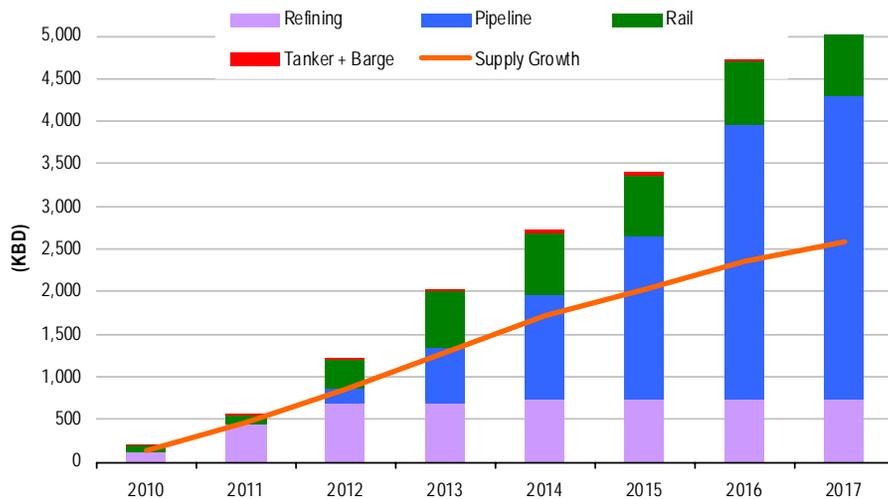
Pipeline flows into and out of Cushing

	From	To	Pre Inflows	Capacity	Post Flows
Basin	Permian	Cushing	345	360	345
Cashion	Local Gathering	Cushing	70	80	70
Centurion North	Permian	Cushing	62	175	62
Hawthorn	Local Gathering	Cushing	45	60	45
Keystone (Steele City)	Canadian Heavy	Cushing	150	591	290
Seaway	Gulf	Cushing	30	350	
Spearhead	Chicago Canadian Heavy	Cushing	120	190	180
Whitecliffs	DJ Basin	Cushing	50	70	50
Total In			872	1876	1042
BP1	Cushing	Whiting	141	175	141
Eagle North	Cushing	Ardmore	20	32	20
Plains to Coffeyville	Cushing	Coffeyville	70	80	70
Osage	Cushing	El Dorado, McPherson	140	145	140
Ozark	Cushing	Wood River	220	240	220
Phillips to Borger	Cushing	Borger	43	60	43
Red River	Cushing	Wynnewood	12	70	12
Seaway (Required)	Cushing	Houston			400
Total Out			646	802	1046
Imbalance			-226		4

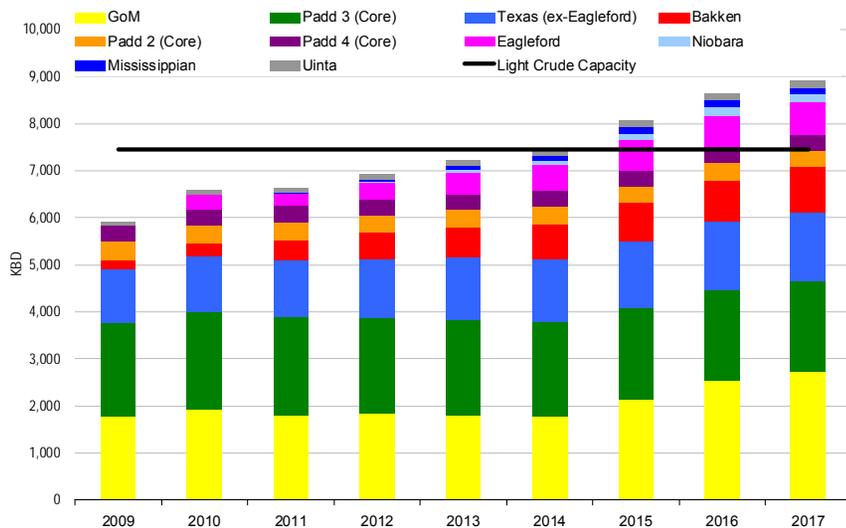
Source for all charts: Credit Suisse estimates, Credit Suisse Commodity Research

Need more pipes for the medium term

Mid-Con Supply Demand Chart



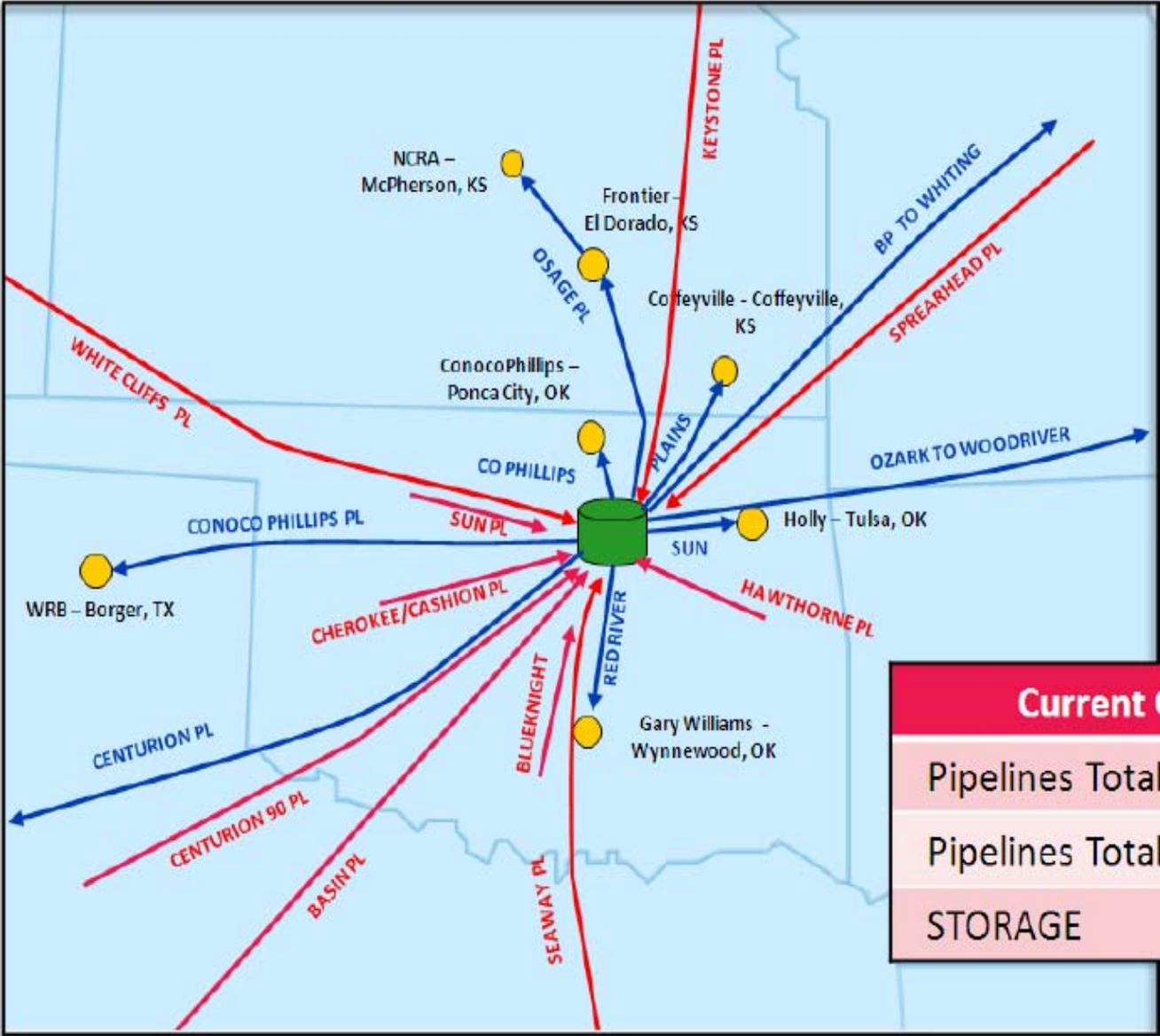
Longer Term Crude Could Exceed Even Gulf Coast



Source for all charts: Credit Suisse estimates, the BLOOMBERG PROFESSIONAL™ service, DOE

- Crude Supply into the mid-continent should grow by an incremental 1.5 Million BBLs/Day by 2015 and not stop there.
- The reversal of Seaway (400kbd capacity) is only the first of several pipelines required.
- Supply estimates could prove too low given growth potential from new plays, e.g., Utica, Niobrara.
- Longer term Canada still grows – Exports to Canada’s West Coast could be required from 2016 ...
- Even after all the pipelines are built, WTI-LLS spread is likely to remain \$3/bbl (a healthy level for a mid-con refiner). In the longer term, LLS could also fall vs. Brent – onshore light crude could even overwhelm the Gulf refining complex.

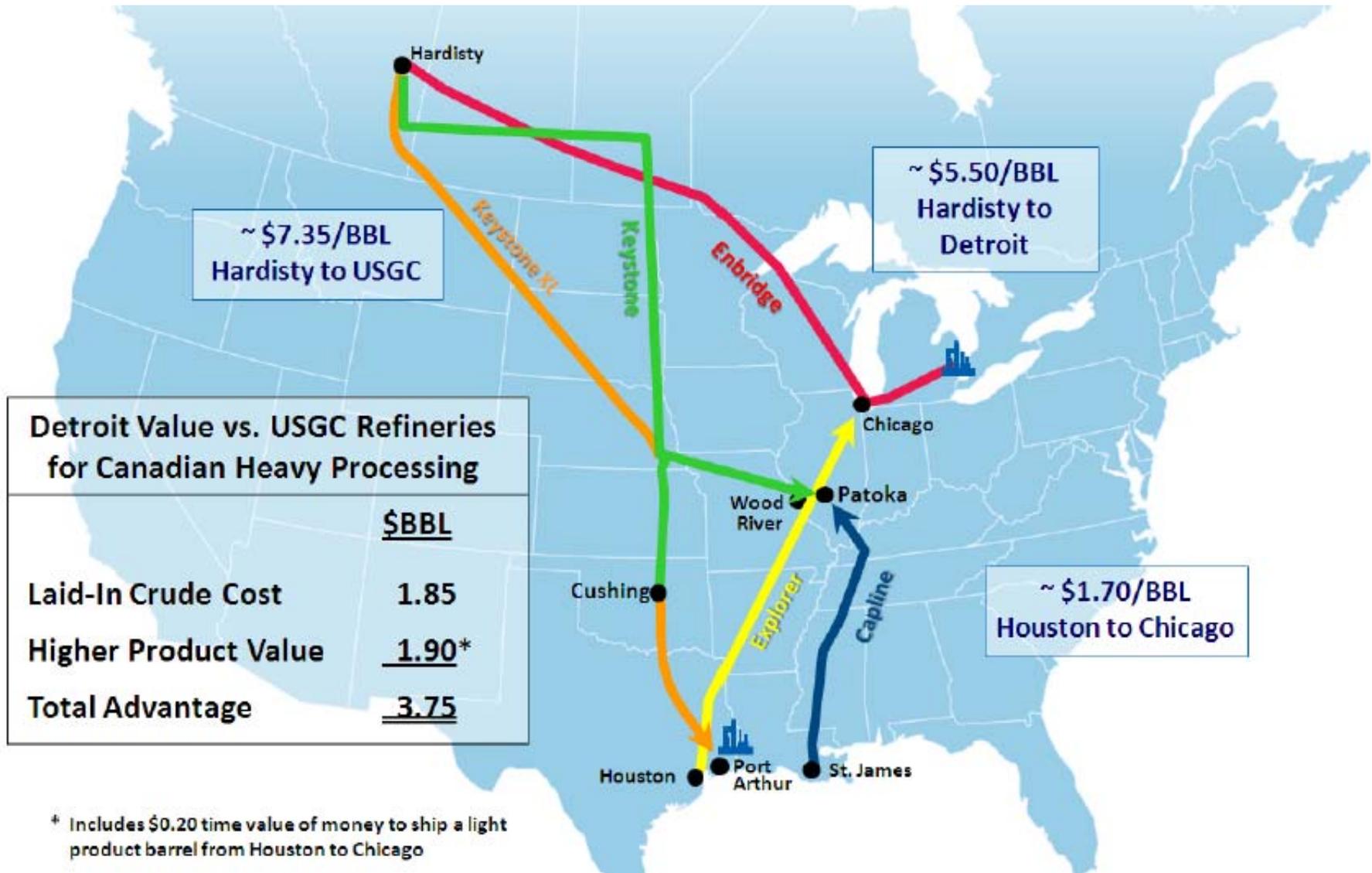
Cushing pipelines



Current CUSHING Capacities	
Pipelines Total IN	1,875 MBD
Pipelines Total OUT	985 MBD
STORAGE	58.6 MMBBL

Source: MPC

Mid-Con crude infrastructure

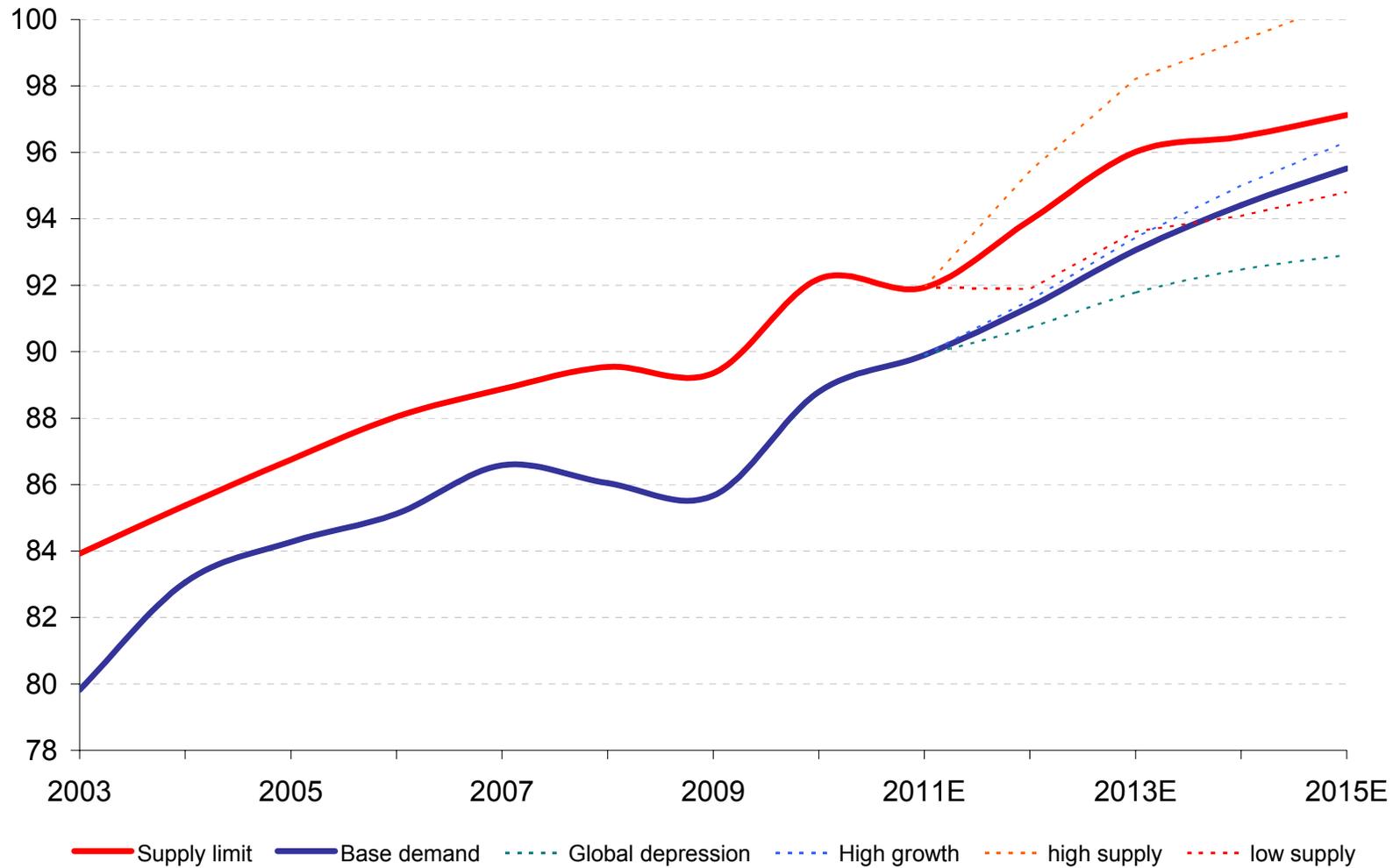


Source: Enbridge; Credit Suisse

Oil balance scenarios

Long-term balances

(in mb/d)



Source: Credit Suisse Global Commodities Research

Global oil demand (mb/d, unless otherwise specified)

Demand	2010	Q1-'11	Q2-'11	Q3-'11E	Q4-'11E	2011E	Q1-'12E	Q2-'12E	Q3-'12E	Q4-'12E	2012E	Q1-'13E	Q2-'13E	Q3-'13E	Q4-'13E	2013E	2014E
Global	88.8	89.4	88.7	90.2	91.2	89.9	90.7	90.2	91.7	92.8	91.4	92.2	91.9	93.5	94.6	93.1	94.4
YoY Growth, net mb/d	3.1	2.3	0.7	0.6	0.9	1.1	1.3	1.5	1.5	1.5	1.5	1.5	1.7	1.8	1.8	1.7	1.4
YoY Growth, %	3.6%	2.7%	0.8%	0.6%	1.0%	1.2%	1.5%	1.6%	1.7%	1.7%	1.6%	1.6%	1.9%	1.9%	1.9%	1.9%	1.5%
OECD	46.2	46.2	44.5	45.9	46.3	45.7	46.2	44.4	46.0	46.3	45.7	46.3	44.6	46.1	46.5	45.9	46.1
YoY Growth, net mb/d	0.6	0.3	-0.8	-0.8	-0.4	-0.4	-0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.1	0.2	0.1	0.2
YoY Growth, %	1.2%	0.6%	-1.8%	-1.6%	-1.0%	-1.0%	-0.1%	-0.1%	0.2%	0.1%	0.0%	0.3%	0.4%	0.3%	0.4%	0.3%	0.5%
North America	23.8	23.7	23.2	23.5	23.6	23.5	23.4	23.1	23.5	23.6	23.4	23.5	23.1	23.5	23.6	23.4	23.6
YoY Growth, net mb/d	0.5	0.3	-0.5	-0.6	-0.3	-0.3	-0.2	-0.2	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.2
YoY Growth, %	2.0%	1.2%	-2.0%	-2.4%	-1.1%	-1.1%	-1.0%	-0.7%	0.0%	0.0%	-0.4%	0.1%	0.2%	0.2%	0.1%	0.2%	0.7%
Europe	14.6	14.2	14.1	14.7	14.6	14.4	14.1	14.1	14.7	14.6	14.4	14.2	14.2	14.8	14.7	14.5	14.4
YoY Growth, net mb/d	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	-0.1
YoY Growth, %	-0.6%	-0.9%	-0.9%	-1.5%	-1.5%	-1.2%	-0.3%	-0.2%	-0.3%	-0.3%	-0.3%	0.6%	0.8%	0.7%	0.8%	0.7%	-0.4%
Asia Pacific	7.8	8.3	7.1	7.7	8.1	7.8	8.6	7.3	7.8	8.2	8.0	8.6	7.3	7.8	8.2	8.0	8.1
YoY Growth, net mb/d	0.2	0.1	-0.2	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1
YoY Growth, %	2.4%	1.5%	-3.1%	0.6%	0.4%	-0.1%	2.7%	2.2%	1.7%	1.0%	1.9%	0.1%	0.1%	0.0%	0.1%	0.1%	1.3%
Non-OECD	42.6	43.2	44.3	44.3	44.9	44.2	44.6	45.7	45.8	46.4	45.6	45.9	47.3	47.4	48.1	47.2	48.3
YoY Growth, net mb/d	2.6	2.1	1.5	1.3	1.3	1.5	1.4	1.5	1.4	1.5	1.4	1.4	1.6	1.6	1.6	1.6	1.1
YoY Growth, %	6.5%	5.0%	3.5%	3.1%	3.0%	3.6%	3.2%	3.4%	3.2%	3.3%	3.3%	3.0%	3.4%	3.6%	3.5%	3.4%	2.4%
Former Soviet Union	4.5	4.6	4.5	4.9	4.8	4.7	4.7	4.6	5.0	4.9	4.8	4.8	4.7	5.1	5.1	4.9	5.1
YoY Growth, net mb/d	0.3	0.4	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
YoY Growth, %	7.0%	8.3%	7.7%	3.0%	2.0%	5.1%	2.1%	2.2%	2.6%	2.3%	2.3%	2.4%	2.5%	2.8%	2.5%	2.6%	2.7%
China	9.2	9.6	9.8	9.7	10.0	9.8	9.9	10.3	10.2	10.5	10.2	10.2	10.8	10.7	11.0	10.7	11.0
YoY Growth, net mb/d	1.0	0.9	0.4	0.6	0.3	0.6	0.3	0.5	0.5	0.5	0.4	0.3	0.5	0.5	0.5	0.5	0.4
YoY Growth, %	12.1%	10.6%	4.5%	6.3%	3.4%	6.1%	2.8%	4.6%	4.9%	4.9%	4.3%	3.2%	4.8%	5.1%	5.1%	4.6%	3.3%
Other emerging Asia	10.9	11.2	11.6	10.9	11.5	11.3	11.7	12.0	11.1	11.8	11.7	12.1	12.4	11.5	12.2	12.0	12.3
YoY Growth, net mb/d	0.4	0.3	0.4	0.3	0.4	0.3	0.5	0.4	0.3	0.3	0.4	0.3	0.4	0.3	0.4	0.4	0.3
YoY Growth, %	3.4%	2.4%	3.8%	2.9%	3.4%	3.1%	4.3%	3.4%	2.5%	3.0%	3.3%	3.0%	3.0%	3.1%	3.1%	3.1%	2.1%
South America	6.4	6.3	6.6	6.8	6.8	6.6	6.5	6.7	7.0	7.0	6.8	6.7	6.9	7.2	7.2	7.0	7.1
YoY Growth, net mb/d	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
YoY Growth, %	5.7%	3.9%	2.6%	2.0%	3.4%	3.0%	2.6%	2.5%	2.7%	2.7%	2.6%	3.0%	2.9%	3.1%	3.0%	3.0%	1.1%
Mideast	7.4	7.2	7.6	7.9	7.5	7.6	7.3	7.8	8.1	7.7	7.8	7.5	8.0	8.4	8.0	8.0	8.3
YoY Growth, net mb/d	0.4	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
YoY Growth, %	5.4%	3.2%	2.5%	1.3%	2.7%	2.4%	2.5%	2.7%	2.7%	2.7%	2.6%	2.7%	2.8%	2.9%	2.8%	2.8%	3.5%
Africa	3.4	3.5	3.4	3.4	3.6	3.5	3.6	3.6	3.6	3.8	3.6	3.8	3.7	3.7	3.9	3.8	3.8
YoY Growth, net mb/d	0.2	0.0	0.0	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0
YoY Growth, %	5.4%	1.3%	-1.3%	2.1%	2.6%	1.2%	4.7%	4.8%	4.7%	4.6%	4.7%	4.8%	4.9%	4.8%	4.8%	4.8%	1.2%

Source: IEA, JODI, EIA, Credit Suisse Global Commodities Research

Global oil supply (mb/d, unless otherwise specified)

Supply	2010	Q1-'11	Q2-'11	Q3-'11E	Q4-'11E	2011E	Q1-'12E	Q2-'12E	Q3-'12E	Q4-'12E	2012E	Q1-'13E	Q2-'13E	Q3-'13E	Q4-'13E	2013E	2014E
Global	88.3	89.3	88.8	89.2	90.4	89.4	90.4	90.8	91.3	92.2	91.2	92.4	92.8	93.7	94.6	93.4	94.8
YoY Growth, net mb/d	2.5	1.8	0.8	0.5	1.2	1.1	1.1	2.0	2.1	1.9	1.8	2.0	2.0	2.4	2.4	2.2	1.4
YoY Growth, %	2.9%	2.1%	0.9%	0.6%	1.4%	1.2%	1.2%	2.2%	2.3%	2.1%	2.0%	2.2%	2.2%	2.6%	2.6%	2.4%	1.5%
Non OPEC	50.5	51.0	50.4	50.3	51.1	50.7	51.2	51.2	51.3	52.2	51.5	52.4	52.4	52.5	53.2	52.6	53.3
YoY Growth, net mb/d	1.1	0.6	0.2	0.0	0.0	0.2	0.2	0.8	1.1	1.1	0.8	1.2	1.2	1.2	1.0	1.1	0.6
YoY Growth, %	2.3%	1.3%	0.3%	0.1%	0.0%	0.4%	0.4%	1.5%	2.1%	2.2%	1.6%	2.4%	2.3%	2.3%	1.9%	2.2%	1.2%
North America	15.0	15.3	15.2	15.3	15.8	15.4	15.7	15.6	15.8	16.2	15.8	16.1	16.1	16.3	16.5	16.3	16.5
YoY Growth, net mb/d	0.6	0.4	0.4	0.3	0.5	0.4	0.3	0.3	0.5	0.4	0.4	0.5	0.5	0.5	0.4	0.5	0.3
YoY Growth, %	4.3%	3.0%	3.0%	2.1%	3.6%	2.9%	2.2%	2.0%	3.0%	2.4%	2.4%	3.1%	3.5%	3.2%	2.3%	3.0%	1.7%
South America	4.5	4.6	4.5	4.6	4.6	4.6	4.7	4.7	4.7	4.8	4.7	5.0	5.0	5.0	5.0	5.0	5.2
YoY Growth, net mb/d	0.2	0.2	-0.1	0.0	0.1	0.0	0.2	0.2	0.2	0.1	0.2	0.3	0.3	0.3	0.2	0.3	0.2
YoY Growth, %	4.8%	3.8%	-1.1%	0.3%	1.4%	1.1%	3.4%	5.0%	3.7%	3.0%	3.8%	6.1%	6.0%	6.0%	5.1%	5.8%	4.0%
Europe	4.5	4.6	4.6	4.2	4.5	4.5	4.4	4.1	3.9	4.2	4.1	4.2	3.9	3.8	4.0	4.0	3.8
YoY Growth, net mb/d	-0.3	-0.3	0.1	0.0	-0.1	-0.1	-0.2	-0.5	-0.2	-0.3	-0.3	-0.2	-0.2	-0.1	-0.2	-0.2	-0.2
YoY Growth, %	-6.7%	-5.6%	1.2%	0.1%	-3.2%	-2.0%	-5.1%	-10.1%	-6.0%	-6.3%	-6.9%	-4.2%	-4.6%	-3.5%	-3.6%	-4.0%	-4.3%
FSU	13.6	13.7	13.7	13.7	13.6	13.7	13.7	13.8	13.8	14.0	13.8	14.0	14.1	14.1	14.3	14.1	14.3
YoY Growth, net mb/d	0.3	0.2	0.1	0.1	-0.1	0.1	0.0	0.2	0.2	0.5	0.2	0.3	0.3	0.3	0.2	0.3	0.2
YoY Growth, %	1.9%	1.5%	0.5%	0.6%	-0.7%	0.5%	-0.3%	1.2%	1.2%	3.3%	1.4%	2.4%	1.9%	1.9%	1.8%	2.0%	1.5%
Russia	10.5	10.6	10.6	10.7	10.7	10.7	10.6	10.7	10.8	10.9	10.7	10.8	10.9	10.9	11.0	10.9	10.9
YoY Growth, net mb/d	0.2	0.2	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.0
YoY Growth, %	2.4%	1.5%	1.3%	1.8%	1.1%	1.4%	0.3%	0.8%	0.8%	1.3%	0.8%	1.8%	1.5%	1.4%	1.1%	1.4%	-0.2%
Africa	2.7	2.7	2.6	2.7	2.7	2.7	2.7	2.8	2.9	2.9	2.8	3.0	3.1	3.1	3.2	3.1	3.1
YoY Growth, net mb/d	0.0	0.0	-0.1	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
YoY Growth, %	0.9%	1.9%	-3.7%	0.3%	1.0%	-0.1%	2.5%	10.1%	7.1%	7.8%	6.9%	8.2%	8.0%	7.8%	7.7%	7.9%	2.6%
Mideast	1.7	1.7	1.6	1.6	1.6	1.6	1.7	1.6									
YoY Growth, net mb/d	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
YoY Growth, %	1.4%	-0.1%	-6.9%	-5.7%	-7.5%	-5.1%	-3.4%	4.1%	2.4%	3.6%	1.6%	-1.1%	-1.3%	-1.1%	-0.9%	-1.1%	-3.0%
Asia	8.5	8.4	8.3	8.2	8.3	8.3	8.4	8.5	8.5	8.5	8.5	8.5	8.6	8.6	8.5	8.5	8.6
YoY Growth, net mb/d	0.3	0.1	-0.1	-0.3	-0.3	-0.2	0.0	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1
YoY Growth, %	4.0%	0.6%	-1.7%	-3.4%	-3.0%	-1.9%	-0.4%	2.7%	3.4%	2.2%	2.0%	1.1%	0.8%	0.6%	0.6%	0.8%	1.1%
Processing gain	2.7	2.7	2.7	2.9	2.9	2.8	2.8	2.8	3.0	3.0	2.9	2.8	2.9	3.1	3.0	3.0	3.0
OPEC	35.2	35.6	35.7	36.0	36.4	35.9	36.4	36.8	36.9	37.1	36.8	37.1	37.5	38.1	38.4	37.8	38.5
YoY Growth, net mb/d	1.3	1.1	0.5	0.4	1.1	0.8	0.8	1.1	0.9	0.6	0.8	0.7	0.8	1.2	1.3	1.0	0.7
YoY Growth, %	3.8%	3.1%	1.5%	1.0%	3.0%	2.1%	2.2%	3.0%	2.5%	1.7%	2.4%	2.0%	2.1%	3.2%	3.6%	2.7%	2.0%
Opec Crude Oil	29.9	30.3	30.2	30.5	30.7	30.4	30.7	31.0	31.2	31.2	31.0	31.4	31.8	32.3	32.6	32.0	32.7
YoY Growth, net mb/d	0.7	0.8	0.2	0.2	0.7	0.5	0.4	0.8	0.7	0.5	0.6	0.7	0.8	1.2	1.4	1.0	0.7
YoY Growth, %	2.5%	2.9%	0.8%	0.6%	2.4%	1.7%	1.4%	2.6%	2.2%	1.6%	1.9%	2.2%	2.5%	3.7%	4.4%	3.2%	2.1%
Opec 11	27.5	27.5	27.3	27.7	27.9	27.6	27.8	28.0	28.2	28.2	28.0	28.2	28.6	29.1	29.3	28.8	28.9
YoY Growth, net mb/d	0.7	0.6	-0.2	-0.3	0.4	0.1	0.3	0.7	0.5	0.2	0.4	0.4	0.5	0.9	1.1	0.7	0.2
YoY Growth, %	2.6%	2.2%	-0.7%	-0.9%	1.5%	0.5%	1.0%	2.6%	1.8%	0.9%	1.5%	1.6%	1.9%	3.2%	4.0%	2.7%	0.5%
Opec non-crude	5.3	5.3	5.5	5.6	5.7	5.5	5.7	5.8									
YoY Growth, net mb/d	0.5	0.2	0.3	0.2	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.1
YoY Growth, %	11.6%	4.3%	5.4%	3.4%	6.4%	4.9%	7.0%	5.6%	3.8%	2.6%	4.7%	0.8%	-0.3%	0.5%	-0.5%	0.1%	1.2%

Source: IEA, JODI, EIA, Credit Suisse Global Commodities Research

Implied and reported inventory changes and “call on OPEC” (mb/d, unless otherwise specified)

Balance, stocks	2010	Q1-'11	Q2-'11	Q3-'11E	Q4-'11E	2011E	Q1-'12E	Q2-'12E	Q3-'12E	Q4-'12E	2012E	Q1-'13E	Q2-'13E	Q3-'13E	Q4-'13E	2013E	2014E
Implied inventory change	-0.4	-0.1	0.1	-1.0	-0.9	-0.5	-0.3	0.6	-0.4	-0.5	-0.2	0.2	0.9	0.2	0.0	0.3	0.4
Reported oil inventory:																	
OECD stock change	0.0	-0.3	0.5	-0.2	-0.8	-0.2	-0.2	0.3	-0.3	-0.5	-0.5	0.2	0.3	0.0	-0.2	0.1	0.2
OECD inventory (billion barrels)	2.65	2.63	2.67	2.66	2.58	2.58	2.57	2.59	2.56	2.52	2.52	2.54	2.56	2.56	2.54	2.54	2.60
Cover, days demand	57.3	59.1	58.3	57.4	56.0	56.0	57.7	56.4	55.3	54.4	54.4	56.9	55.6	55.1	55.5	55.5	0.0
'Call on Opec & stocks"	30.4	30.4	30.1	31.4	31.6	30.9	31.0	30.4	31.6	31.8	31.2	31.1	30.9	32.1	32.6	31.7	32.3
<i>YoY Growth, net mb/d</i>	1.3	1.3	0.1	0.2	0.4	0.5	0.6	0.3	0.1	0.1	0.3	0.2	0.5	0.5	0.8	0.5	0.6
<i>YoY Growth, %</i>	4.6%	4.6%	0.4%	0.7%	1.2%	1.7%	2.1%	0.9%	0.4%	0.4%	0.9%	0.5%	1.8%	1.7%	2.5%	1.6%	1.8%

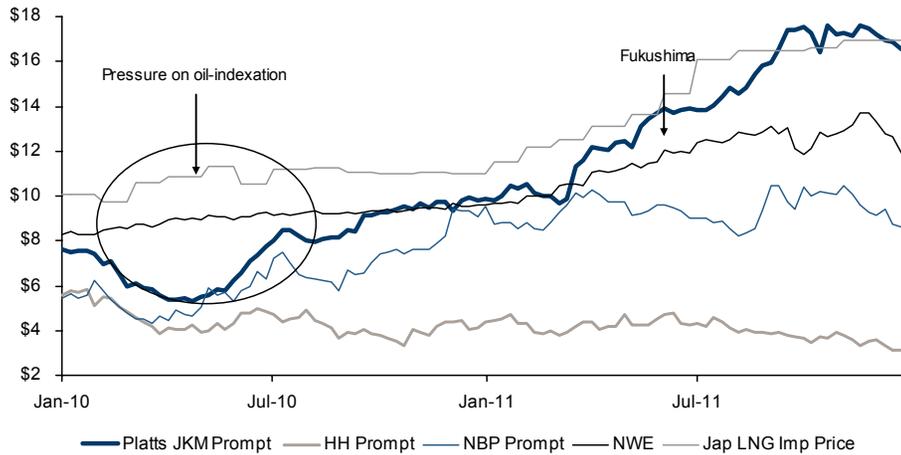
Source: IEA, JODI, EIA, Credit Suisse Global Commodities Research

Global Natural Gas – Divergent Paths

Global gas markets – Risks to the upside, for now ...

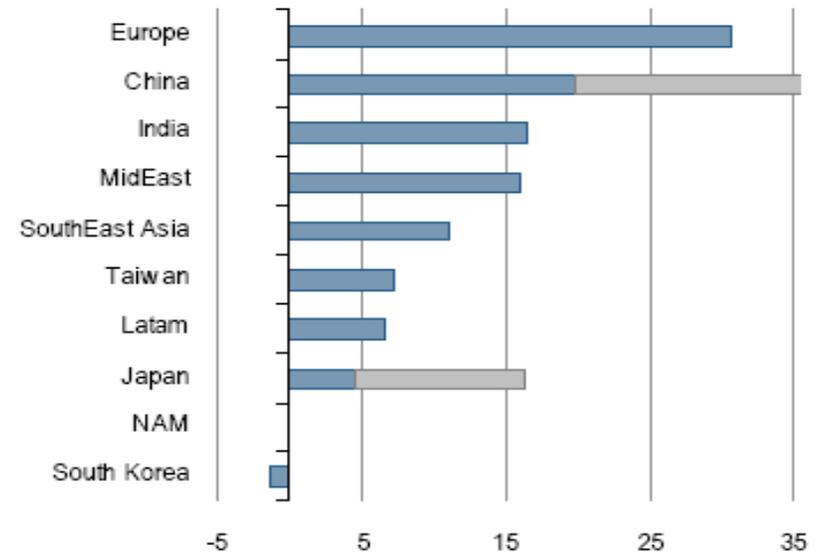
Global price benchmarks, rising post Fukushima

(\$/Mmbtu)



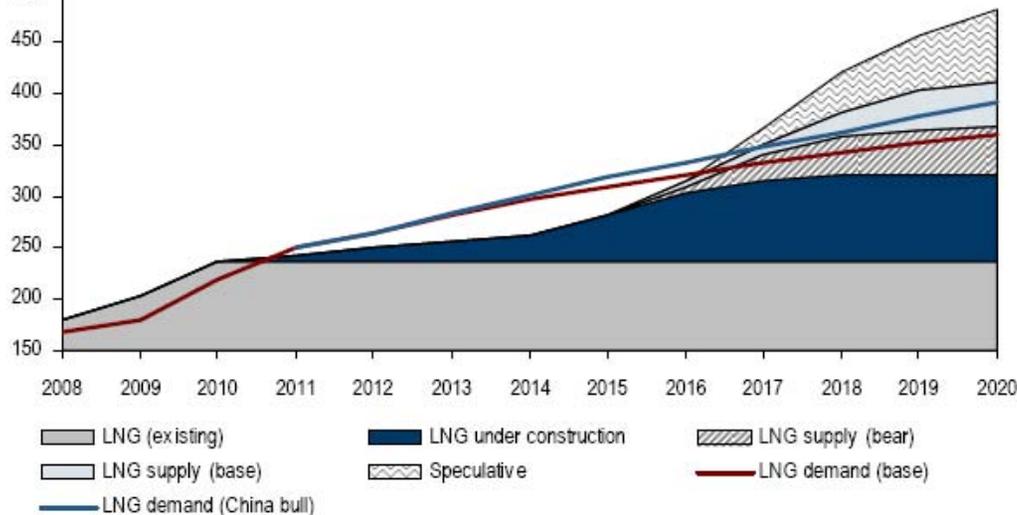
Change in LNG demand, 2020E vs. 2011E

(mtpa)



From tight to loose by 2016

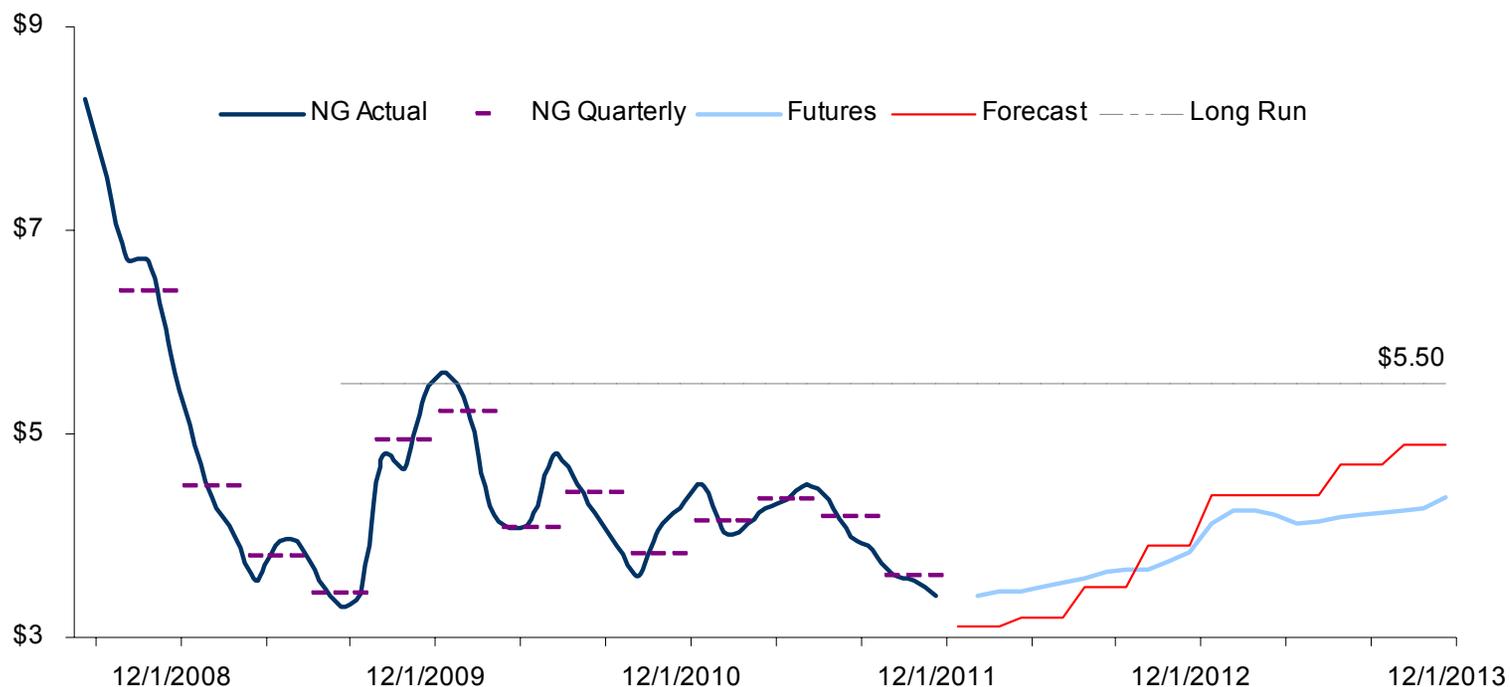
(mtpa)



- Global gas (LNG) market expected to be increasingly tight from 2012-2015, with more balanced market after 2015.
- A lack of large LNG plant start-ups, shutdown of nuclear capacity in Japan and Germany, and strong Asia Pacific demand lead to near-term tightness.
- Continued EU gas oversupply situation should keep spot UK NBP prices depressed compared to pure arbitrage from Asia, putting pressure on oil-indexed gas from continental Europe.
- Due to a period of high LNG prices (~\$14/Mmbtu), natural gas may lose economic appeal, resulting in a much lower-than-consensus gas demand figure by 2020.

Source: the BLOOMBERG PROFESSIONAL™ service, Platts, Credit Suisse Equities Research, Credit Suisse Global Commodities Research

Henry Hub forecast : Pain in 2012, transition year in 2013



Credit Suisse US gas price Forecast

US \$/Mmbtu, long term prices based on 2011 real price

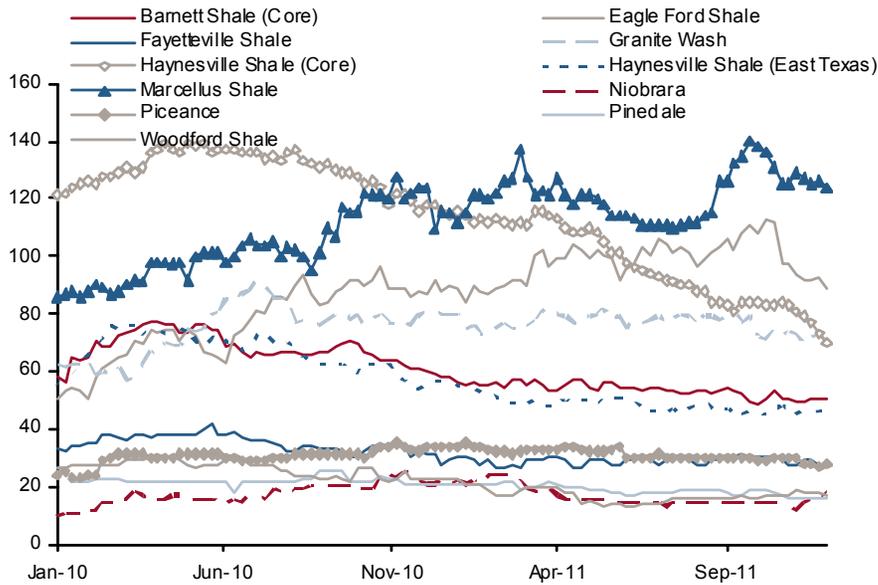
	2010	1Q-11	2Q-11	3Q-11	4Q-11	2011	1Q-12f	2Q-12f	3Q-12f	4Q-12f	2012	1Q-13f	2Q-13f	3Q-13f	4Q-13f	2013	2014	LT
US Gas	4.38	4.14	4.36	4.19	3.61	4.07	3.20	3.30	3.60	3.90	3.50	4.60	4.50	4.80	4.90	4.70	5.10	5.50

Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse Global Commodities Research

North American natural gas supply outlook – Efficiency, efficiency, efficiency

Unconventional gas rig counts by basin

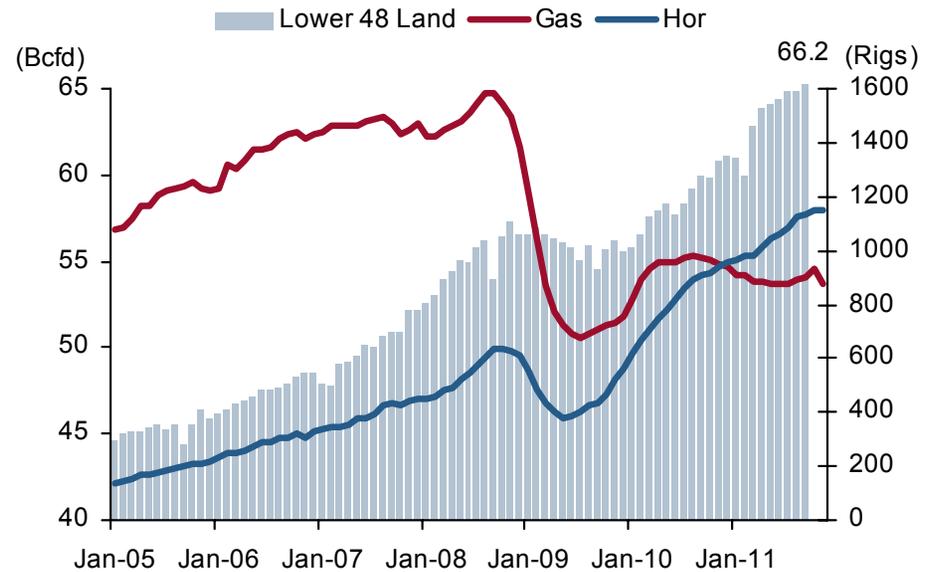
(rigs)



- Dry gas plays are becoming more efficient by reducing drilling times and initiating pad drilling, helping create the current +4.2 Bcfd dry gas growth in 2011.
- **US production should stage another year of growth in 2012, albeit at a slower pace than 2011 at +1.1 Bcfd y-o-y.**

- Eagle Ford and Marcellus shale continue to add rigs as we see liquids drilling dominating producer capex and drilling plans.
- Horizontal rigs have sustained levels and now represent nearly 72% of all gas drilling rigs.

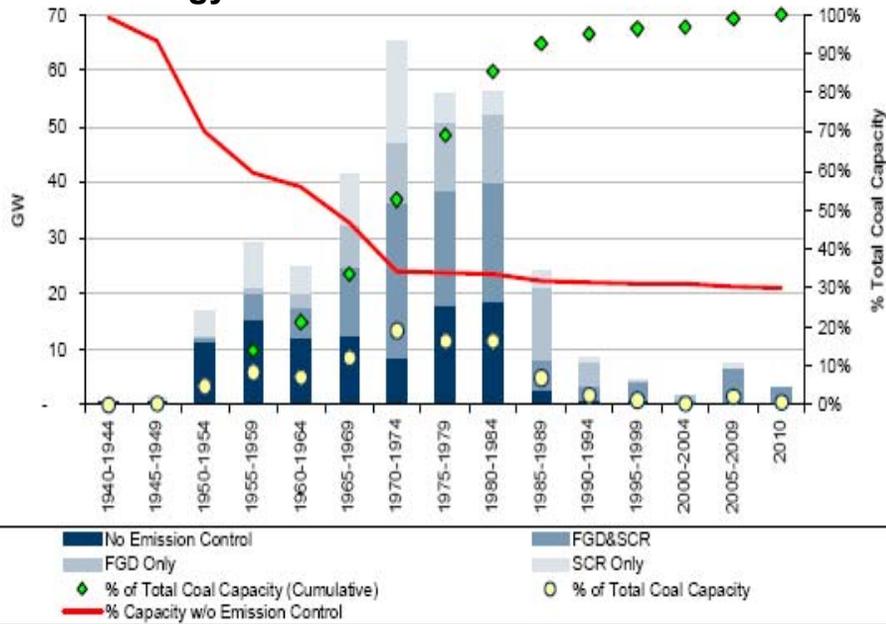
US production versus Rig counts



Source: Smith Bits STATS, Baker Hughes, EIA, Credit Suisse Global Commodities Research

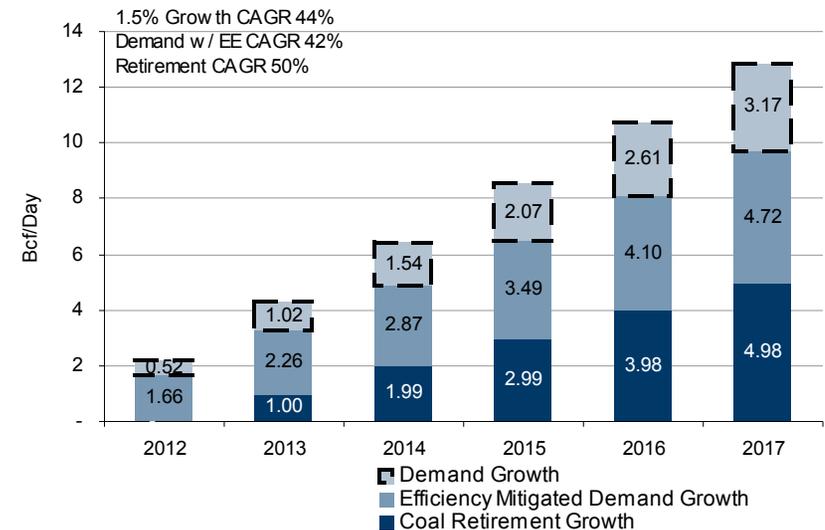
North American gas demand – 60 GW of coal generation at risk to closure

A large percentage of US coal lacks any emission control technology



- The EPA's proposed Cross-State Air Pollution Rule (CSAPR) and the Mercury Air Toxics Standards (MATS) for Power Plants are the most important policies impacting natural gas demand, in our view.
- Nearly 30% of the 340 GW US coal fleet lack any emissions control technology to speak of.
- If investment decision makes economic sense, some of these plants will install the necessary equipment while older, inefficient plants will be forced to retire.

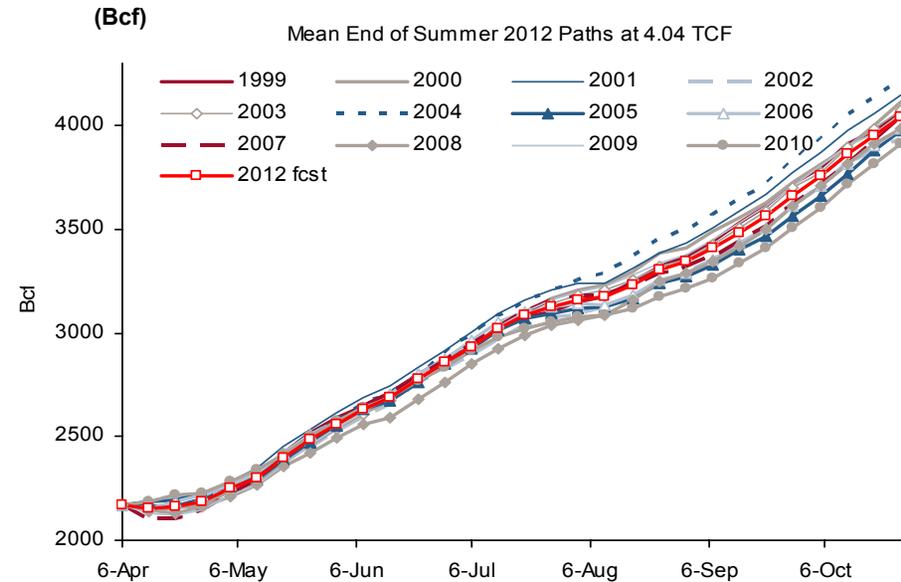
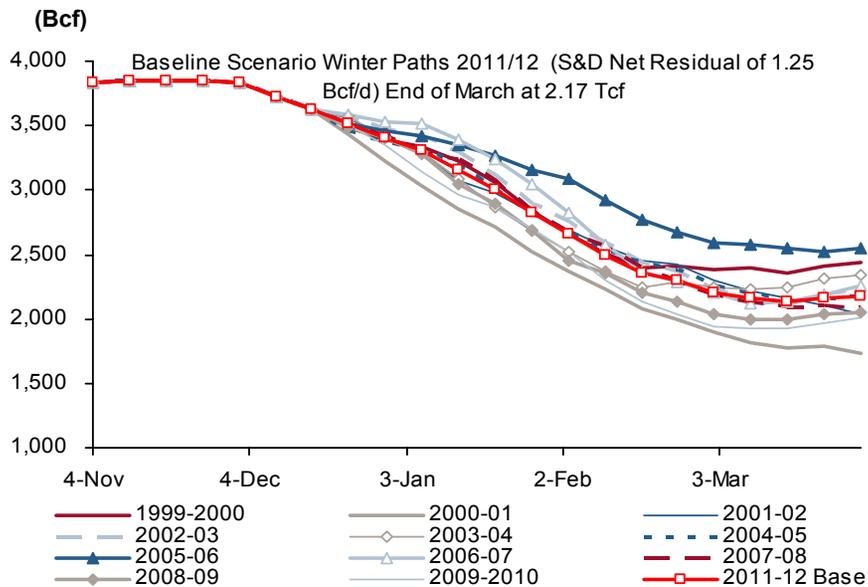
Cumulative impact of EPA policies on gas demand



- **Cross State Air Pollution Rule (CSAPR) Update**
 - DC court delayed CSAPR on December ,
 - Hearing set for 4/5/12, but may take longer ...
 - MATS standard likely to be more important for gas demand
- **Mercury Air Toxics Rule (MATS) Update**
 - Finalized in December 2011
 - 3 yr compliance period with 1 yr of possible extension
 - Base case estimate for coal retirements remains 60 GW by 2017
- **In addition to EPA policies, current low gas prices are expected to pressure coal generation economics.**

Source: See Dan Egger's, *Growth From Subtraction* report dated 23 September 2010 at https://doc.research-and-analytics.csfb.com/doc?language=ENG&format=PDF&document_section=1&document_id=861031121 and Edward Westlake, et. Al. *Energy in 2012* dated 3 January 2012 at https://doc.research-and-analytics.csfb.com/doc?language=ENG&format=PDF&document_section=1&document_id=937651241

Preliminary winter/summer paths for 2011/2012



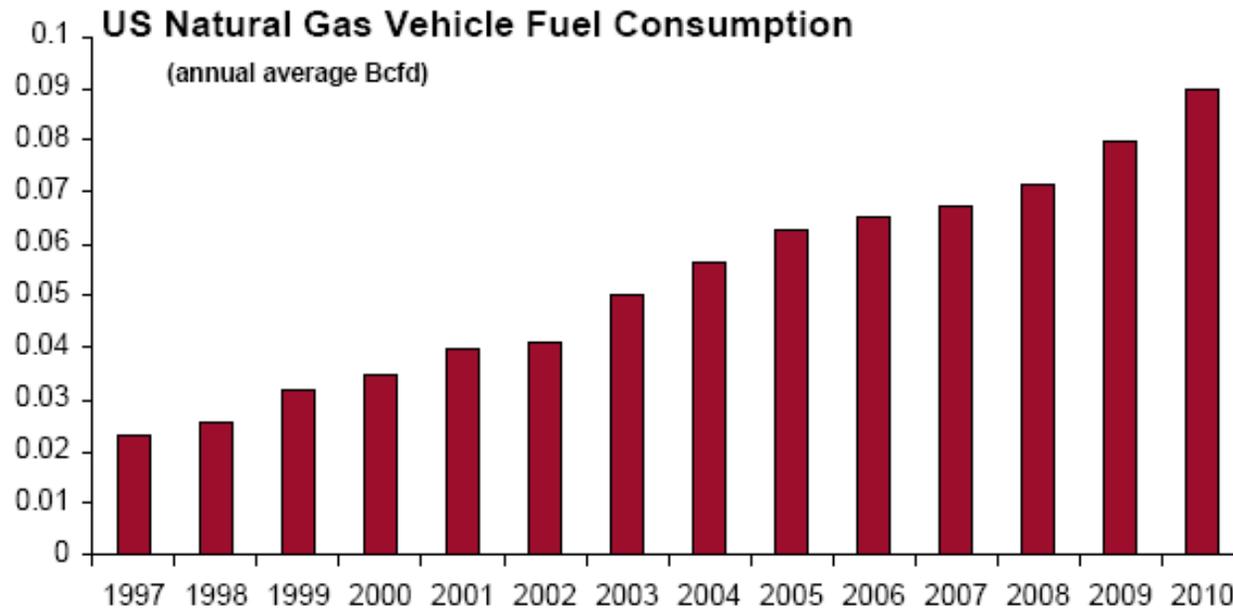
Year-over-year changes to key winter 2011-2012 components

- **US Production:** +3.0 Bcf/d y-o-y. Efficiency gains and NGL-driven production keep gas well supplied.
- **LNG Imports:** -0.10 Bcf/d y-o-y. Imports have been kept at contract minimums due to low gas prices relative to other global LNG benchmarks and growing domestic production.
- **Canadian Pipeline Imports:** -0.75 Bcf/d y-o-y. Growing domestic production in the Marcellus and the introduction of Ruby pipeline have kept Canadian volumes sidelined through most of 2011 and should continue into 2012.
- **Power Demand:** +0.30 Bcf/d y-o-y. Cheap US gas prices and build outs of gas-fired generation taking market share from coal.
- **Industrial Demand:** +0.6 Bcf/d y-o-y improving US economy and low gas prices make gas competitive as industrial feedstock.

- **End of March weather-adjusted base forecast is currently 2.03 Tcf, while the surplus is carried over into summer, pushing stocks to finish at 4.04 Tcf by October 2012.**

Source: EIA, Bentek Energy, NOAA, Credit Suisse Global Commodities Research

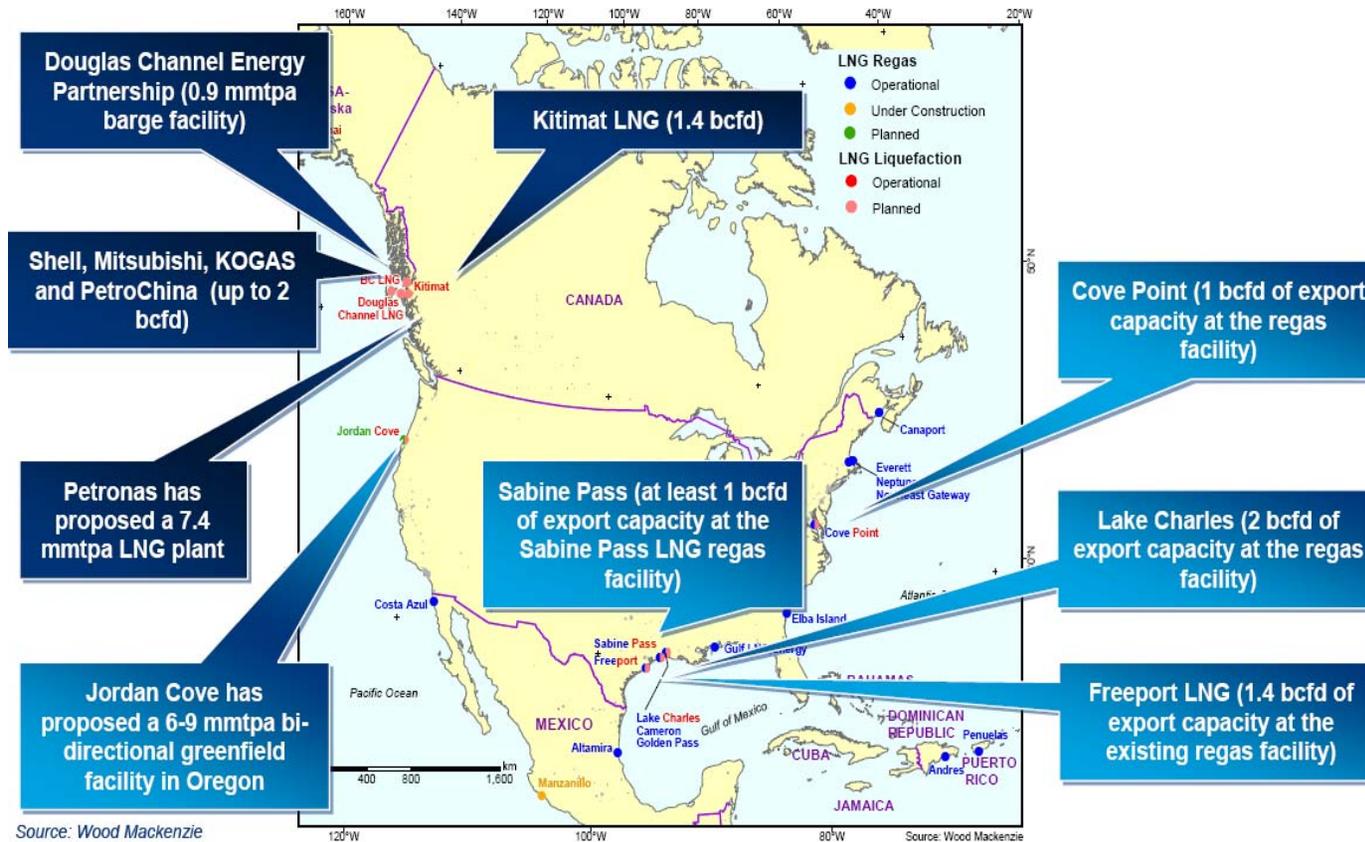
NGVs gaining steam but have a way to go



- In 2010 NG transportation fuel consumption increased 13%, but it is still fairly low on a relative basis at only 90 Mmcf/d.
- In 2011 we monitored ongoing developments with the NAT GAS ACT as well as a trend of producer and consuming companies adopting natural gas transportation friendly plans:
 - Chesapeake announced plans to invest \$150 million in CNG and LNG truck fueling stations for heavy-duty fleets and conversion of all 4,500 of personal light duty fleet to run on CNG and 400 of heavy duty fleet to run on LNG.
 - Encana opened a CNG station in southern Alberta and plans to convert own fleet to CNG and LNG Ford enters into a supply agreement with a natural gas powered engine producer to be available for F-250 and F-350 trucks.
- Despite recent news, we see large scale limitations and DO NOT anticipate NGVs impacting our medium-term balance.

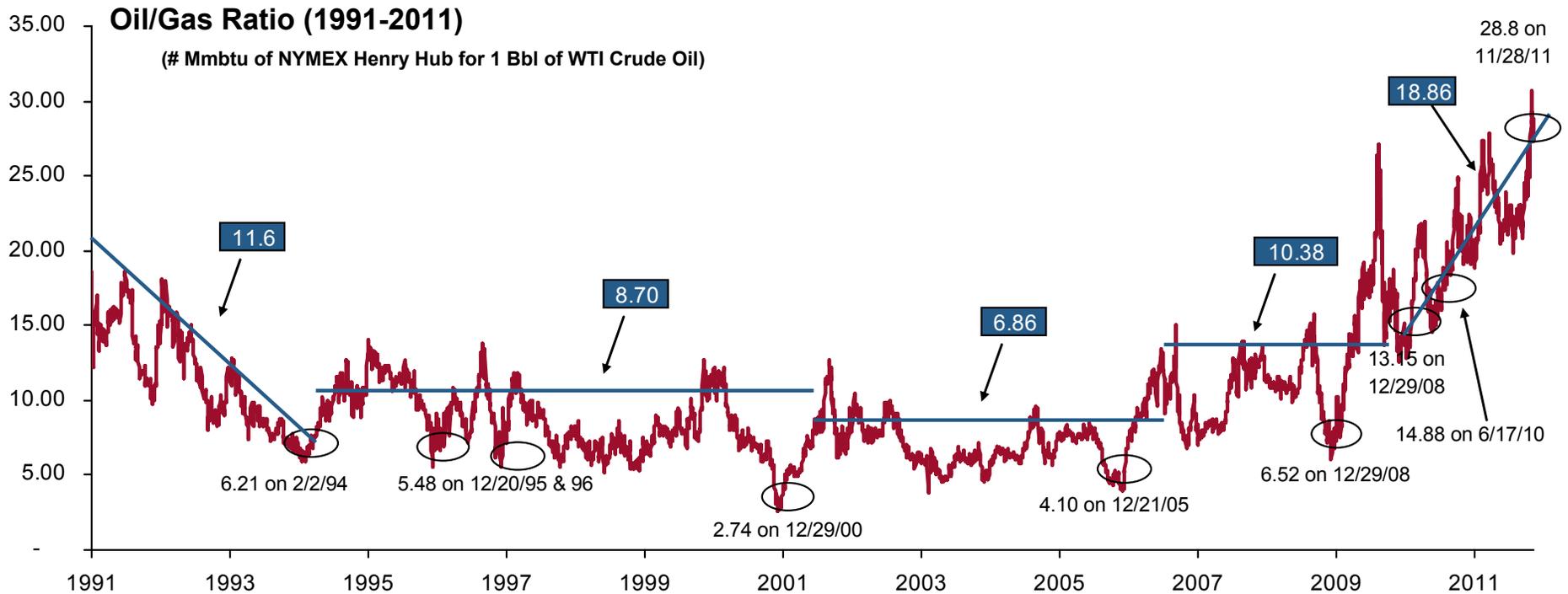
Source: EIA, Credit Suisse Commodities Research

Canadian/US LNG exports look increasingly attractive



- In addition to the Kitimat LNG project In Canada, the BC government plans to finance three LNG export projects by 2020.
- Exports look increasingly attractive given recent events in Japan, particularly to Asian markets.
- **Buyer risk:** will these remain competitive given increases in NA natural gas prices?
- Contract specifications are unclear
 - Sellers want oil-indexation, buyers want Henry hub-based pricing.
 - Cheniere has locked in three long-term Henry Hub based deals out of Sabine Pass, but will Canadian LNG exports be able to do the same?
- Project uncertainties
 - The cost of adequate pipeline from Alberta/BC to coastline. Unlike GOM LNG export projects, needed pipeline doesn't currently exist.
 - Australian LNG project costs look expensive, which may increase attractiveness of Canadian LNG exports for Asian markets.

Can gas-to-liquids compete with LNG exports?



- **Rule of thumb:** LNG plants more economical **versus GTL** when oil/gas ratio below 6, while above 12 GTL is favored.
- Assuming a \$110/bbl oil price, gas price must stay below \$9/Mmbtu to stay competitive. According to our forecasts, US gas should remain below these levels, but oil-linked Asian and European gas will likely not show diminishing economics for GTL vs. LNG in these markets.
- With Shell's Pearl GTL now underway, investors are certainly eyeing the results.
- Sasol/Talisman project in Western Canada still undergoing study.
- **Given our long-run price for oil (Brent at \$90/bbl and WTI at \$84/bbl) and gas (Henry Hub at \$5.50/Mmbtu), we expect GTL projects to attract increasing attention.**

Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

US natural gas supply/demand estimates and associated risks

(Bcfd)	2010	Q1/2011	Q2/2011	Q3/2011	Q4/2011E	2011E	Q1/2012E	Q2/2012E	Q3/2012E	Q4/2012E	2012E	Q1/2013E	Q2/2013E	Q3/2013E	Q4/2013E
Dry Gas Production	59.1	61.1	63.0	63.4	63.7	62.8	64.1	64.1	63.9	63.5	63.9	62.9	62.5	62.1	61.8
Y-o-Y	2.7	3.1	4.5	4.1	3.0	3.7	3.0	1.1	0.6	(0.1)	1.1	(1.2)	(1.6)	(1.8)	(1.8)
Canadian Imports (Net)	7.0	6.8	5.4	5.9	5.9	6.0	5.8	5.8	5.9	5.5	5.7	6.2	6.3	6.4	6.2
Y-o-Y	(0.1)	(0.7)	(1.2)	(1.4)	(0.5)	(0.9)	(1.0)	0.4	(0.1)	(0.5)	(0.3)	0.3	0.5	0.6	0.7
Mexican Exports (Net)	(0.8)	(1.3)	(1.5)	(1.4)	(1.2)	(1.3)	(1.4)	(1.6)	(1.5)	(1.4)	(1.4)	(1.5)	(1.8)	(1.7)	(1.5)
Y-o-Y	0.0	(0.6)	(0.7)	(0.5)	(0.3)	(0.5)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.2)	(0.2)	(0.1)
LNG Imports (Net)	1.2	1.0	0.8	0.6	0.6	0.7	0.9	0.8	0.5	0.5	0.7	0.8	0.7	0.5	0.4
Y-o-Y	(0.1)	(0.5)	(0.3)	(0.2)	(0.1)	(0.4)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.0)
Total Supply	66.4	67.6	67.8	68.5	68.9	68.2	69.4	69.1	68.8	68.1	68.9	68.3	67.7	67.4	66.9
Y-o-Y	2.6	1.3	2.4	2.0	2.1	1.8	1.8	1.3	0.3	-0.8	0.7	-1.1	-1.4	-1.4	-1.2
Industrial	18.1	20.2	17.8	17.3	18.4	18.4	18.5	18.6	18.7	18.8	18.7	18.9	19.0	19.1	19.2
Y-o-Y	1.2	0.5	0.6	0.3	(0.1)	0.4	(1.7)	0.9	1.4	0.4	0.2	0.4	0.4	0.4	0.4
Power	20.2	16.8	19.9	27.6	18.6	20.7	17.9	21.4	27.6	19.1	21.5	19.2	22.7	27.4	19.7
Y-o-Y	1.4	0.4	0.8	0.0	1.0	0.5	1.1	1.5	0.0	0.5	0.8	1.3	1.3	(0.2)	0.6
Y-o-Y Growth From Coal ret.							-	-	-	-	-	0.3	0.3	0.3	0.3
Res/Comm	22.4	41.0	13.5	8.2	25.6	22.1	40.3	15.2	8.0	26.5	22.5	38.1	14.3	8.1	29.6
Y-o-Y	0.7	(0.2)	0.4	0.2	(1.6)	(0.3)	(0.8)	1.7	(0.2)	0.9	0.4	(2.1)	(0.9)	0.0	3.1
Other	5.4	5.9	5.2	5.5	5.7	5.6	6.1	5.3	5.6	5.9	5.7	6.3	5.5	5.8	6.1
Y-o-Y	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total Demand	66.0	84.0	56.3	58.6	68.3	66.8	82.8	60.6	60.0	70.3	68.4	82.5	61.5	60.4	74.6
Y-o-Y	3.5	0.8	1.9	0.8	-0.6	0.8	-1.2	4.2	1.4	2.0	1.6	-0.3	1.0	0.4	4.3
Price Forecast (\$/Mmbtu)	\$4.38	\$ 4.14	\$ 4.36	\$ 4.19	\$ 3.61	\$ 4.07	\$ 3.20	\$ 3.30	\$ 3.60	\$ 3.90	\$ 3.50	\$ 4.60	\$ 4.50	\$ 4.80	\$ 4.90

Supply side risks/price implications

-  ▪ Uncompleted well inventory
-  ▪ Associated gas uncertainty
-  ▪ Fracking uncertainties

Demand side risks/price implications

-  ▪ EPA policy delays/litigation
-  ▪ North American LNG exports by 2015?
-  ▪ Natural gas vehicles

Source: EIA, Bentek Energy, Smith Bits STATS, Credit Suisse Global Commodities Research



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Disclosure Appendix

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