

A Global Market in Transition: Crude Oil Aplenty, Products A Worry

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Outline

- **A new “marginal demand” world?**
- **Plenty of crude, not enough product?**
- **Where is the demand coming from?**
- **Where will the crude come from?**
- **What about Opec capacity?**
- **What happens to prices?**

A New “Marginal Demand” World

- **Demand is for physical + paper oil**
 - ◆ physical market looks seasonally soft
 - ◆ paper market is roaring ahead
- **Focus is future, not current demand**
- **“China Thesis” a primary driver**
- **Bullet-proof global economy**
- **“Yes, Virginia there is no elasticity**

Enough Crude, But Not Product

- **2005 should see enough crude**
 - ◆ commercial crude stocks look adequate
 - ◆ SPRs still growing
 - ◆ crude quality less of an issue than in 2004
- **Refiners being careful with product stocks**
 - ◆ still “just-in-time” not “just in case”
 - ◆ conversion capacity stretched, susceptible
 - ◆ tighter product specs make it harder

Where Is Demand Coming From?

- **Non-OECD growth dominates**
 - ◆ China, India & Other Asia in front
 - ◆ Opec pumped up by revenue surge
- **OECD lead by US**
 - ◆ Europe flat, Big 4 holding back others
 - ◆ Asia-Pacific 4 dragging
- **Paper markets picking up new class of long-term investor**

2005 Global Demand Growth

2005 Global Oil Demand

million b/d	Q1'05	Q2'05	Q3'05	Q4'05	2005	Chg.	%Change	
							2005	2004
North America	25.44	25.36	25.72	26.09	25.65	+0.47	+1.9%	+2.5%
OECD Europe	15.71	15.58	15.85	16.26	15.85	+0.11	+0.7%	+1.6%
OECD Pacific	9.38	8.02	8.18	8.79	8.59	-0.03	-0.4%	-1.8%
Non-OECD	34.14	34.14	34.44	35.38	34.53	+1.25	+3.8%	+5.8%
Total	84.67	83.10	84.20	86.52	84.63	+1.79	+2.2%	+3.1%

Source: Oil Market Intelligence, April 2005 (in preparation)

EIA	84.50	83.00	84.50	86.60	84.70	+2.10	+2.5%	+2.9%
IEA	84.69	82.79	83.70	86.11	84.32	+1.81	+2.2%	+3.4%

Sources: EIA, Short-Term Energy Outlook, March 2005;

IEA, Oil Market Report, March 12, 2005

2005 Non-OECD Demand Details

2005 Non-OECD Oil Demand

million b/d	Q1'05	Q2'05	Q3'05	Q4'05	2005	Chg.	%Change	
							2005	2004
China	6.54	6.99	6.88	7.14	6.89	+0.66	+10.6%	+16.9%
India	2.57	2.38	2.20	2.52	2.42	+0.15	+6.5%	+13.0%
Thailand	0.89	0.92	0.91	0.92	0.91	+0.03	+2.9%	+5.8%
Philippines	0.36	0.37	0.36	0.37	0.37	+0.01	+3.5%	+5.4%
Opec	7.68	7.68	7.81	7.87	7.76	+0.30	+4.0%	+5.3%
Brazil	1.99	2.12	2.21	2.24	2.14	+0.04	+2.0%	+11.1%
Taiwan	0.96	0.99	0.99	0.99	0.98	+0.02	+2.4%	+3.4%
FSU	4.21	3.80	4.27	4.26	4.13	-0.09	-2.1%	-2.4%
Others	8.93	8.87	8.82	9.08	8.92	+0.13	+1.5%	+0.8%
Total	34.14	34.14	34.44	35.38	34.53	+1.25	+3.8%	+5.8%

Source: Oil Market Intelligence

2005 OECD Demand Details

2005 North American Oil Demand

million b/d	Q1'05	Q2'05	Q3'05	Q4'05	2005	Chg.	%Change	
							2005	2004
United States	20.67	20.61	20.95	21.24	20.87	+0.35	+1.7%	+2.4%
Mexico	2.09	2.07	2.06	2.11	2.08	+0.05	+2.3%	+1.0%
Canada	2.35	2.34	2.36	2.38	2.36	+0.07	+3.1%	+4.4%
US Terr.	0.33	0.33	0.34	0.36	0.34	-0.00	-0.8%	+2.2%
Total	25.44	25.36	25.72	26.09	25.65	+0.47	+1.9%	+2.5%

Source: Oil Market Intelligence

2005 OECD Demand Details

2005 OECD Europe Oil Demand

million b/d	Q1'05	Q2'05	Q3'05	Q4'05	2005	Chg.	%Change	
							2005	2004
Germany	2.58	2.52	2.71	2.73	2.63	-0.04	-1.3%	-0.3%
France	2.08	1.97	1.99	2.04	2.02	0.00	-0.9%	-1.1%
Italy	1.78	1.86	1.88	1.89	1.85	-0.03	-1.5%	+0.4%
UK	1.96	1.93	1.86	1.91	1.91	+0.05	+2.9%	+8.0%
Other EU	5.29	5.19	5.18	5.47	5.28	+0.11	+2.1%	+1.2%
Other OECD Europe	2.03	2.12	2.23	2.23	2.15	+0.03	+1.3%	+3.4%
Total	15.71	15.58	15.85	16.26	15.85	+0.11	+0.7%	+1.6%

Source: Oil Market Intelligence

2005 OECD Demand Details

2005 OECD Pacific Oil Demand

million b/d	Q1'05	Q2'05	Q3'05	Q4'05	2005	Chg.	%Change	
							2005	2004
Japan	6.09	4.90	5.15	5.48	5.40	-0.03	-0.6%	-2.6%
South Korea	2.27	2.06	1.95	2.22	2.13	-0.02	-0.7%	-1.2%
Austr./N. Zealand	1.02	1.06	1.08	1.09	1.06	+0.02	+1.6%	+1.5%
Total	9.38	8.02	8.18	8.79	8.59	-0.03	-0.4%	-1.8%

Source: Oil Market Intelligence

Demand Factors To Watch

- **The policy elasticity of oil prices**
- **Removing the protective veil**
 - ◆ **currency effects**
 - ◆ **subsidies and price controls**
- **Sputtering economies, esp. Japan's**
- **Weather**
- **Events in other fuel markets**
- **For 2005, likely more downside than upside**
- **Current price strength more about the future**

Medium-Term OECD Demand

<i>OECD</i>	2000	2005	2010	2015	Average Ann. Growth		
					'00-'05	'05-'10	'10-'15
North America	24.06	25.65	27.35	28.71	1.3%	1.3%	1.0%
US	19.69	20.87	22.00	22.78	1.2%	1.1%	0.7%
Canada	2.03	2.36	2.53	2.68	3.1%	1.4%	1.1%
Mexico	2.04	2.08	2.44	2.83	0.5%	3.2%	3.0%
US Terr.	0.31	0.34	0.38	0.42	2.0%	2.2%	2.0%
Europe	15.17	15.85	16.71	17.32	0.9%	1.1%	0.7%
Big Four	8.38	8.42	8.42	8.26	0.1%	0.0%	-0.4%
Other Europe	6.79	7.43	8.29	9.06	1.8%	2.2%	1.8%
Asia-Pacific	8.75	8.59	8.64	8.69	-0.4%	0.1%	0.1%
Japan	5.61	5.40	5.35	5.37	-0.7%	-0.2%	0.1%
Korea	2.14	2.13	2.26	2.33	-0.1%	1.3%	0.6%
ANZ	1.00	1.06	1.03	0.98	1.2%	-0.6%	-0.9%
Total OECD	47.98	50.10	52.71	54.71	0.9%	1.0%	0.8%

Source: Energy Intelligence Research

Medium-Term Non-OECD Demand

Non-OECD	2000	2005	2010	2015	Average Ann. Growth		
					'00-'05	'05-'10	'10-'15
Non-OECD Asia	10.45	14.52	19.47	25.61	6.8%	6.0%	5.6%
China	4.35	6.89	9.98	13.68	9.6%	7.7%	6.5%
India	1.99	2.42	2.80	3.41	3.9%	3.0%	4.0%
Other Asia*	4.10	5.21	6.68	8.53	4.9%	5.1%	5.0%
Opec	6.43	7.68	9.48	11.52	3.6%	4.3%	4.0%
Other Non-OECD	11.15	12.46	14.09	15.70	2.3%	2.5%	2.2%
FSU	3.65	4.13	4.52	4.75	2.5%	1.8%	1.0%
Latin America†	4.23	4.48	4.93	5.44	1.1%	1.9%	2.0%
Non-Opec Africa	1.77	2.14	2.62	3.11	3.8%	4.1%	3.5%
Other Mideast	0.87	0.98	1.09	1.20	2.5%	2.1%	2.0%
East Europe	0.63	0.73	0.94	1.20	3.0%	5.1%	5.0%
Total Non-OECD	28.02	34.66	43.04	52.83	4.3%	4.4%	4.2%
Global Demand	76.01	84.76	95.74	107.55	2.2%	2.5%	2.4%

* excluding Indonesia. † excluding Venezuela.

Source: Energy Intelligence Research

Demand Growth & Oil Prices

- **Future demand growth is seen pinching the system**
 - ◆ not enough Opec crude capacity
 - ◆ not enough refining
 - ◆ not enough conversion
- **Paper investors are buying into the future tightness now**

What About Supply?

- **2005 non-Opec supply spurt, last hurrah**
 - ◆ **anything but the conventional wisdom**
- **Other Opec liquids take up some slack**
- **Opec capacity additions beginning, can probably handle next 5 yrs.**
- **Short-term, Q2 looks oversupplied**
- **Fear of Q4 supply crises overstated**
- **Longer-term non-conventional gets real**

Why A 2005 Non-Opec Surge?

- **What it is not:**
 - ◆ not a price responses
 - ◆ not policy driven
 - ◆ not the beginning of a trend
- **What it is:**
 - ◆ primarily undoing 2004 impacts
 - ◆ Ivan, North Sea problems & field delays
 - ◆ bunching up of start-ups - Brazil, US Gulf, Angola, BTC line
 - ◆ limiting the Yukos damage in Russia

Where's It Coming From?

2005 Non-Opec Oil Production

1,000 b/d	Q1'05	Q2'05	Q3'05	Q4'05	2005	Change	
						2005	2004
FSU	11,391	11,575	11,976	12,241	11,799	+654	+918
So. & C. Amer.	4,141	4,457	4,579	4,661	4,428	+434	+36
North America	14,957	14,992	14,944	15,490	15,088	+404	+85
Africa	3,573	3,653	3,725	3,793	3,686	+275	+260
Asia	6,804	6,666	6,644	6,671	6,760	+69	+132
North Sea	5,713	5,758	5,211	5,952	5,653	-9	-230
Other Europe	598	590	587	583	590	-12	33
Non-Opec Mideast	1,735	1,719	1,708	1,689	1,713	-87	-90
Processing Gain	1,880	1,850	1,850	1,880	1,865	+35	+26
Total Non-Opec	50,793	51,260	51,223	52,961	51,582	1,762	1,170

Source: Oil Market Intelligence

FSU Taps The Brakes, Still Leads

2005 Quarterly FSU Oil Production

						Change	
	Q1'05	Q2'05	Q3'05	Q4'05	2005	2005	2004
Russia	9,058	9,192	9,442	9,665	9,341	+377	+781
Kazakhstan	1,055	1,077	1,079	1,101	1,078	+64	+104
Azerbaijan	363	370	450	522	427	+115	-11
Turkmenistan	85	82	79	75	206	+10	+8
Uzbekistan	195	205	210	212	80	-2	0
Other	63	61	58	54	59	-11	-13
NGLs	572	588	658	613	608	+101	+49
Total	11,391	11,575	11,976	12,241	11,799	+654	+918

** Ukraine, Belarus, Georgia, Kyrgyzstan and Tajikistan.*

S&C America: Here Comes Brazil

2005 So. & Cent. American Oil Production

	Q1'05	Q2'05	Q3'05	Q4'05	2005	Change 2005	2004
Brazil	1,643	1,888	1,992	2,040	1,892	+364	-13
Trinidad	144	166	166	165	160	+37	-8
Ecuador	540	552	564	587	561	+35	+119
Peru	115	126	126	132	125	+31	+3
Argentina	668	659	654	654	659	-35	-47
Colombia	483	475	464	449	468	-47	-27
Other*	158	158	156	157	157	-5	+5
NGLs†	390	433	458	477	406	+55	+5
Total	4,141	4,457	4,579	4,661	4,428	+434	+36

* Cuba, Bolivia, Chile, Surinam, Guatemala, and Barbados.

† including Brazilian alcohol fuels

Steady Contribution From Africa

2005 Quarterly Non-Opec Africa Oil Production

						Change	
	Q1 '05	Q2 '05	Q3 '05	Q4 '05	2005	2005	2004
Angola	1,128	1,163	1,208	1,230	1,183	+164	+99
Chad	215	225	230	235	226	+70	+77
Sudan	318	330	368	408	356	+58	+132
Eq. Guinea	347	352	360	372	356	+58	+37
Egypt	658	692	680	668	675	+1	-31
Gabon	241	237	232	233	236	+1	-38
Other	665	655	647	646	653	-77	-15
Total	3,573	3,653	3,725	3,793	3,686	+275	+260

A Surprise Entry, North America

2005 North American Oil Production

1,000 b/d	Q1'05	Q2'05	Q3'05	Q4'05	2005	Change 2005	2004
US							
Alaska	966	904	844	953	917	-40	-62
Lower 48 States	3,052	2,976	2,895	2,879	2,948	-85	-96
Gulf of Mexico	1,640	1,799	1,919	2,040	1,851	+322	-4
NGLs	1,904	1,918	1,866	1,916	1,896	+85	+91
Other HCs	455	457	454	467	457	+21	+19
Total	8,018	8,054	7,977	8,256	8,068	+304	-53
Canada							
Alberta/Sask. Conv.	1,029	979	977	1,024	1,002	-26	-18
Alberta Bitumen	458	445	430	438	443	+77	+5
Other Onshore	68	64	67	69	67	-2	-4
Eastern Offshore	355	366	340	383	361	+40	-24
Synthetics	507	513	594	687	576	-49	+125
NGLs	707	677	676	695	688	+4	+19
Total	3,124	3,044	3,084	3,295	3,137	+43	+102
Mexico							
Offshore	2,816	2,895	2,900	2,958	2,893	+64	+15
Southern Onshore	476	463	454	452	461	-11	-11
Northern Onshore	81	79	79	78	79	-2	+8
NGLs	442	456	448	451	449	+7	+24
Total	3,815	3,893	3,882	3,939	3,883	+57	+36
Total North America	14,957	14,992	14,944	15,490	15,088	+404	+85

Surprise #2, North Sea Stays Even

2005 North Sea† Oil Production

1,000 b/d						Change	
Crude Oil	Q1'05	Q2'05	Q3'05	Q4'05	2005	2005	2004
Norway	2,749	3,006	2,721	2,986	2,872	+32	-80
UK	1,900	1,770	1,617	1,922	1,796	+13	-238
Denmark	388	386	379	414	386	-2	+16
Netherlands	36	36	31	21	31	-6	-4
Germany	22	22	22	22	22	-1	+1
Total Crude	5,094	5,220	4,771	5,365	5,107	+36	-305
NGLs							
Norway	366	326	250	360	325	-16	+2
UK	248	208	188	225	217	-27	+74
Netherlands	5	4	3	3	4	-2	-0
Total NGLs	620	538	441	587	546	-45	+76
Total Oil	5,713	5,758	5,211	5,952	5,653	-9	-230

† including Norwegian Sea, Atlantic Margin, and eastern Baltic Sea.

Longer-Term Non-Opec Flattens

Non-Opec Supply 1995-2015

1,000 b/d	1995	2000	2005	2010	2015	Avg. Ann. Chg.			
						'95-'00	'00-'05	'05-'10	'10-'15
Growth Areas									
FSU	7,157	7,478	11,191	13,377	17,665	+0.9%	+8.4%	+3.6%	+5.7%
Africa	2,561	2,824	3,687	4,469	5,275	+2.0%	+5.5%	+3.9%	+3.4%
So. & C. Amer.	3,029	3,759	4,428	4,911	5,153	+4.4%	+3.3%	+2.1%	+1.0%
Mature Areas									
North Sea	5,734	6,269	5,653	4,610	3,152	+1.8%	-2.0%	-4.0%	-7.3%
Non-Opec Mideast	1,776	1,976	1,627	1,325	998	+2.2%	-3.8%	-4.0%	-5.5%
Asia	5,678	6,378	6,760	5,878	4,704	+2.4%	+1.2%	-2.8%	-4.4%
Onshore Europe	753	603	590	468	385	-4.3%	-0.4%	-4.5%	-3.8%
North America	14,033	14,296	15,088	14,683	13,464	+0.4%	+1.1%	-0.5%	-1.7%
Processing Gain	1,456	1,715	1,865	2,350	2,900	+3.3%	+1.7%	+4.7%	+4.3%
Total Non-Opec	42,176	45,298	50,889	52,070	53,695	+1.4%	+2.4%	+0.5%	+0.6%

What Does Opec Need To Do?

- Q1 production ahead of the “call”
- Q2 build > 2 million b/d coming?
- Q4 “call” only slightly more than Q1

Global Balances 2005

million b/d	Q1'05	Q2'05	Q3'05	Q4'05	2005
Global Demand	84.67	83.10	84.20	86.52	84.63
Non-Opec Supply	50.79	51.26	51.22	52.96	51.58
Opec Other Liquids	4.39	4.45	4.52	4.57	4.48
Call on Opec Crude†	29.49	27.38	28.45	29.00	28.56
Opec Crude‡	29.62				

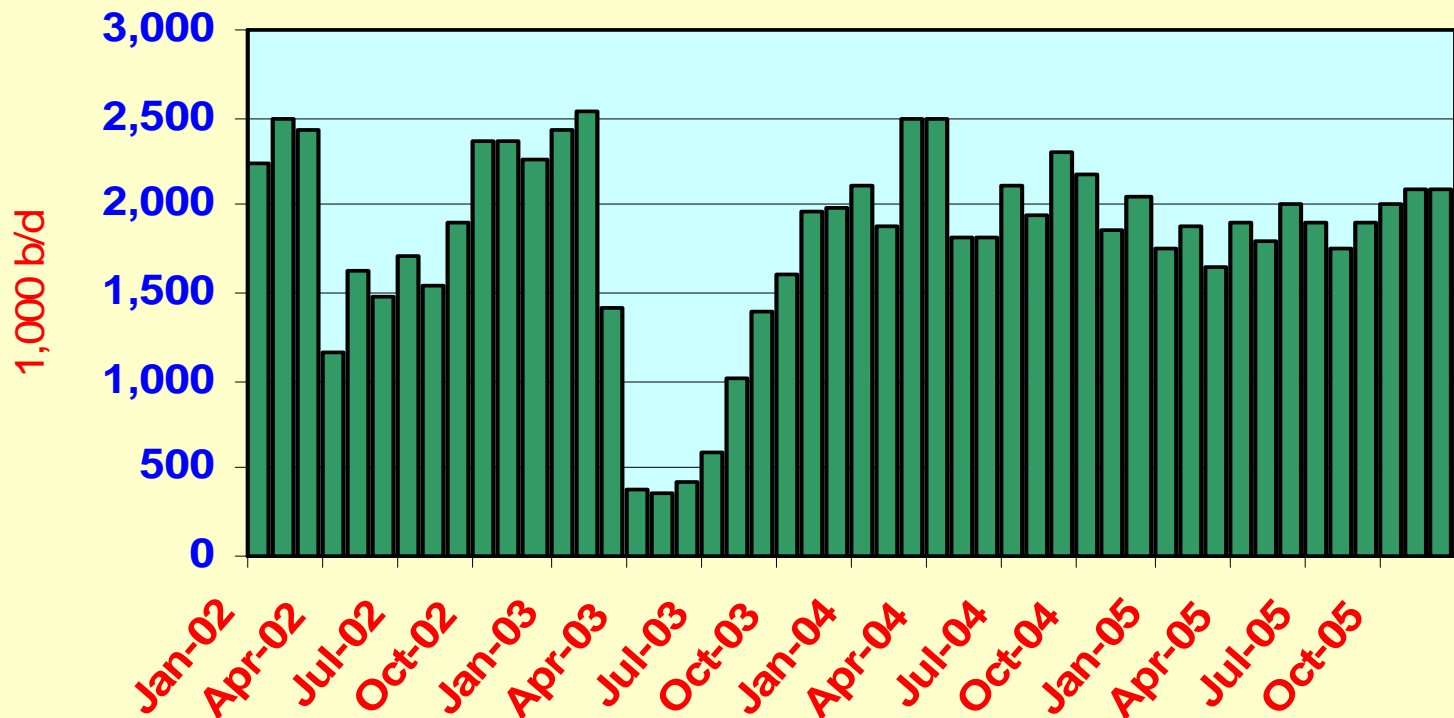
† plus stock change. ‡ including upgraded Venezuelan syncrude

Opec Plots Its Course

- **Making room for Iraq, but when?**
- **African light crude on the way**
- **Venezuela, Indonesia struggling**
- **Saudis, neighbors fine-tuning**
- **Longer-term all about capacity**
 - ◆ **how much?**
 - ◆ **what kind of crude?**

Sporadic Iraq Lags Potential

Iraqi Production 2002-2005



Opec Fills The Gaps

Expected Opec Crude Production 2005

1,000 b/d	Q1'05	Q2'05	Q3'05	Q4'05	2005
Saudi Arabia	9,229	9,586	9,193	8,847	9,213
Iran	3,833	3,734	3,687	3,650	3,725
UAE	2,381	2,392	2,366	2,400	2,385
Kuwait	2,550	2,570	2,442	2,429	2,497
Qatar	817	820	825	843	826
Iraq	1,761	1,899	1,849	2,066	1,895
Algeria	1,315	1,332	1,337	1,358	1,336
Nigeria	2,316	2,383	2,434	2,433	2,392
Libya	1,623	1,625	1,625	1,645	1,630
Venezuela*	2,863	2,825	2,866	2,930	2,871
Indonesia	935	917	924	896	918
Total	29,623	30,081	29,548	29,498	29,687

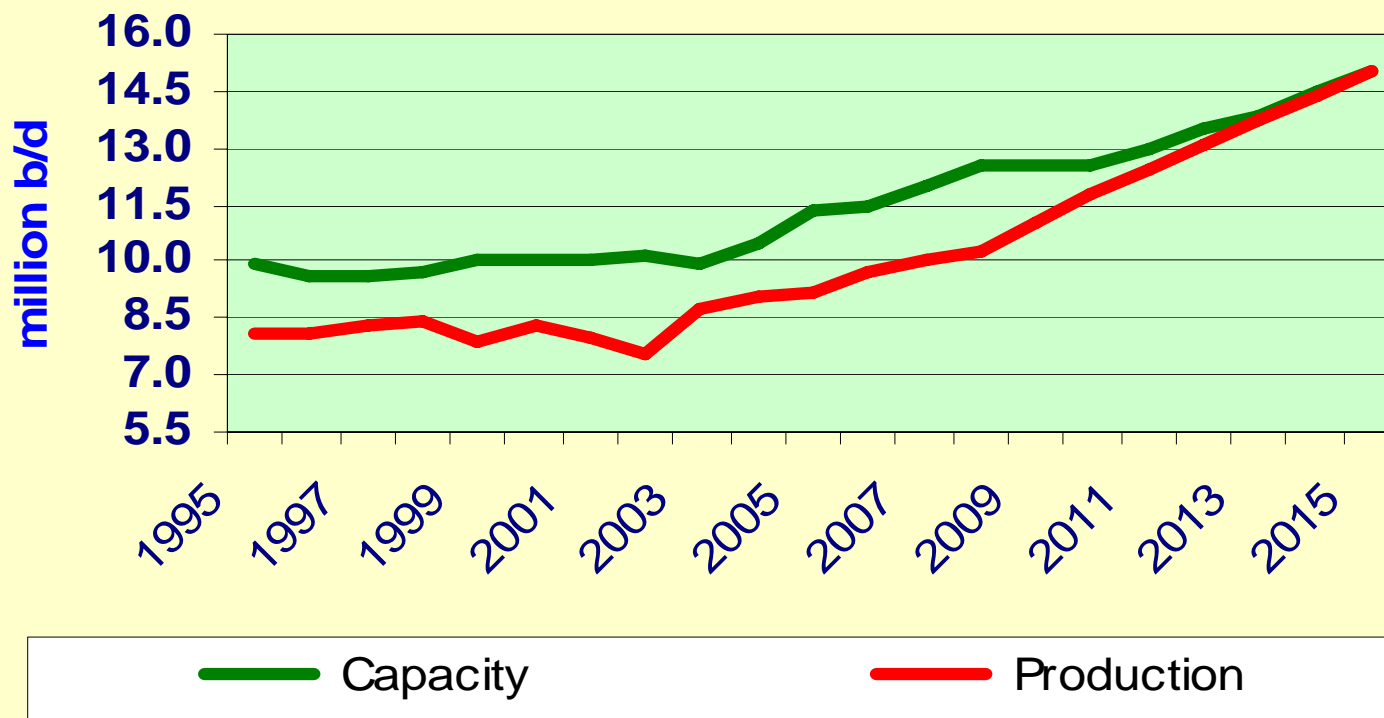
* including upgraded syncrude

Opec Capacity Squeeze Coming

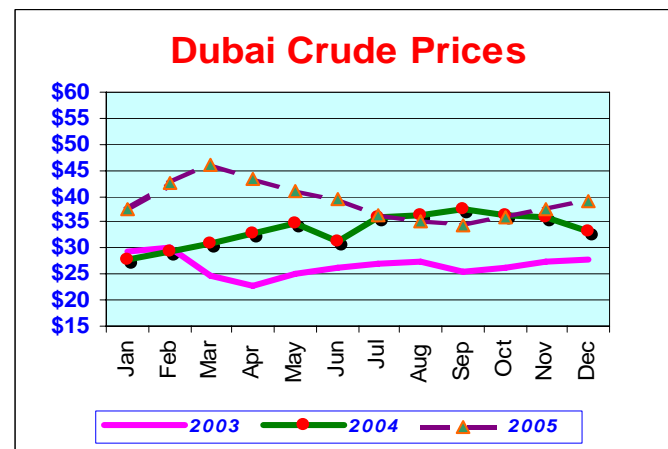
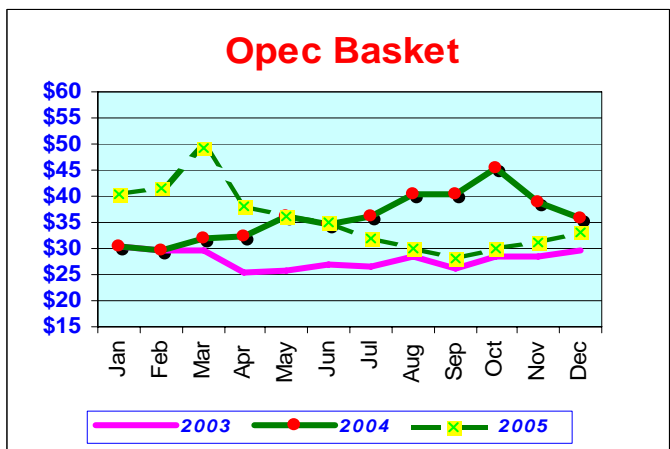
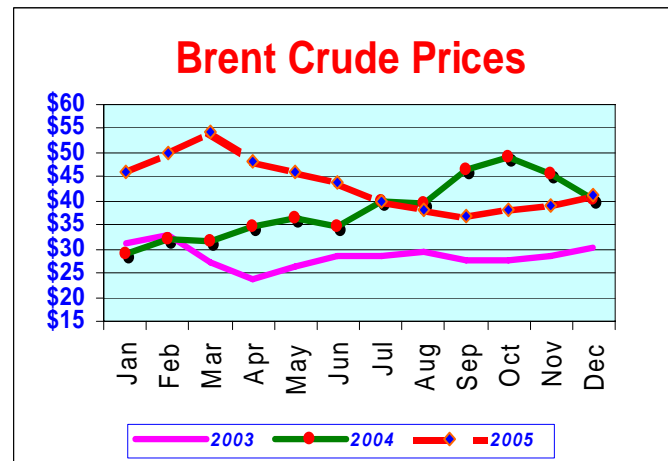
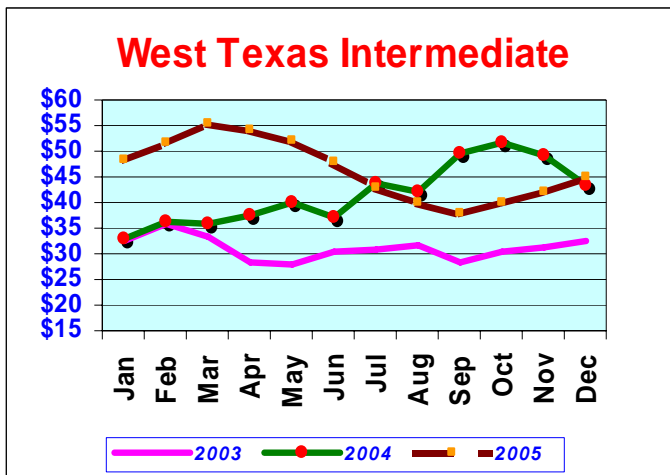
Opec Crude						Avg. Ann. Chg.			
1,000 b/d	1995	2000	2005	2010	2015	'95-'00	'00-'05	'05-'10	'10-'15
Opec Mideast	17,048	19,370	20,775	27,462	31,450	2.6%	1.4%	5.7%	2.7%
Saudi Arabia	8,150	8,325	9,213	12,325	15,000	0.4%	2.0%	6.0%	4.0%
Iran	3,652	3,657	3,725	3,950	4,200	0.0%	0.4%	1.2%	1.2%
UAE	2,198	2,287	2,385	3,487	3,750	0.8%	0.8%	7.9%	1.5%
Kuwait	2,050	1,921	2,727	3,325	3,500	-1.3%	7.3%	4.0%	1.0%
Iraq	550	2,476	1,899	3,500	4,000	35.1%	-5.2%	13.0%	2.7%
Qatar	449	703	826	875	1,000	9.4%	3.3%	1.2%	2.7%
Opec Africa	4,100	4,207	5,357	6,900	10,700	0.5%	5.0%	5.2%	9.2%
Nigeria	1,932	2,036	2,392	3,500	5,000	1.1%	3.3%	7.9%	7.4%
Libya	1,405	1,375	1,630	2,000	3,500	-0.4%	3.5%	4.2%	11.8%
Algeria	763	796	1,336	1,400	2,200	0.8%	10.9%	0.9%	9.5%
Opec So. America	2,752	2,894	2,871	3,173	4,100	1.0%	-0.2%	2.0%	5.3%
Venezuela	2,752	2,894	2,871	3,173	4,100	1.0%	-0.2%	2.0%	5.3%
Opec Asia	1,335	1,293	918	800	900	-0.6%	-6.6%	-2.7%	2.4%
Indonesia	1,335	1,293	918	800	900	-0.6%	-6.6%	-2.7%	2.4%
Total	25,235	27,763	29,921	38,335	47,150	1.9%	1.5%	5.1%	4.2%

The Day Of Reckoning

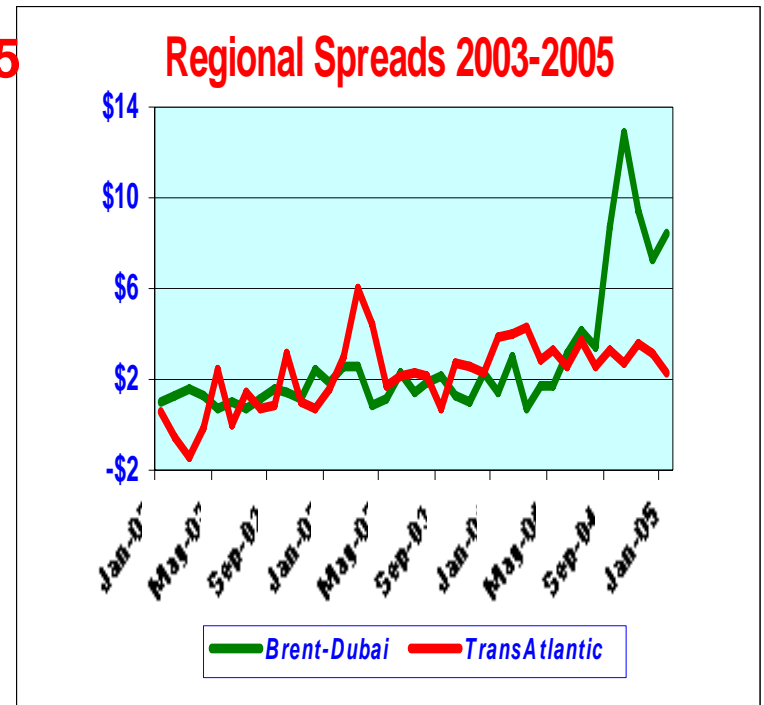
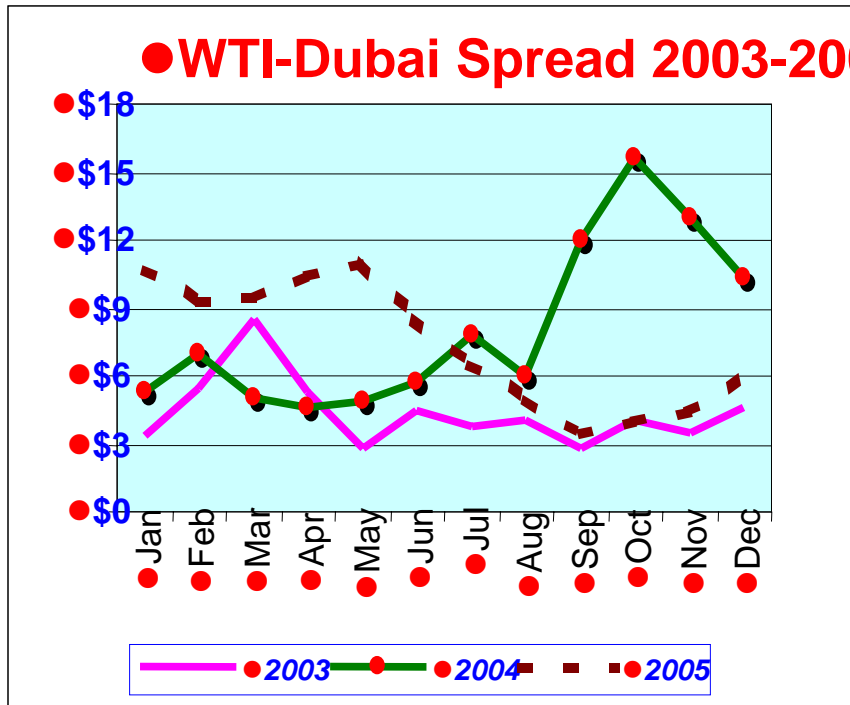
Saudi Capacity & Production 1995-2015



The Oil Price Roller Coaster



Spreads Even Worse Behaved



Conclusions

- **Physical fundamentals losing the battle – for now**
- **Supply appears to be on the way to meet demand**
- **Longer term stage being set for tightness, and paper markets are buying**
- **Prices may calm down later this year;**
- **But is it the calm before another storm?**