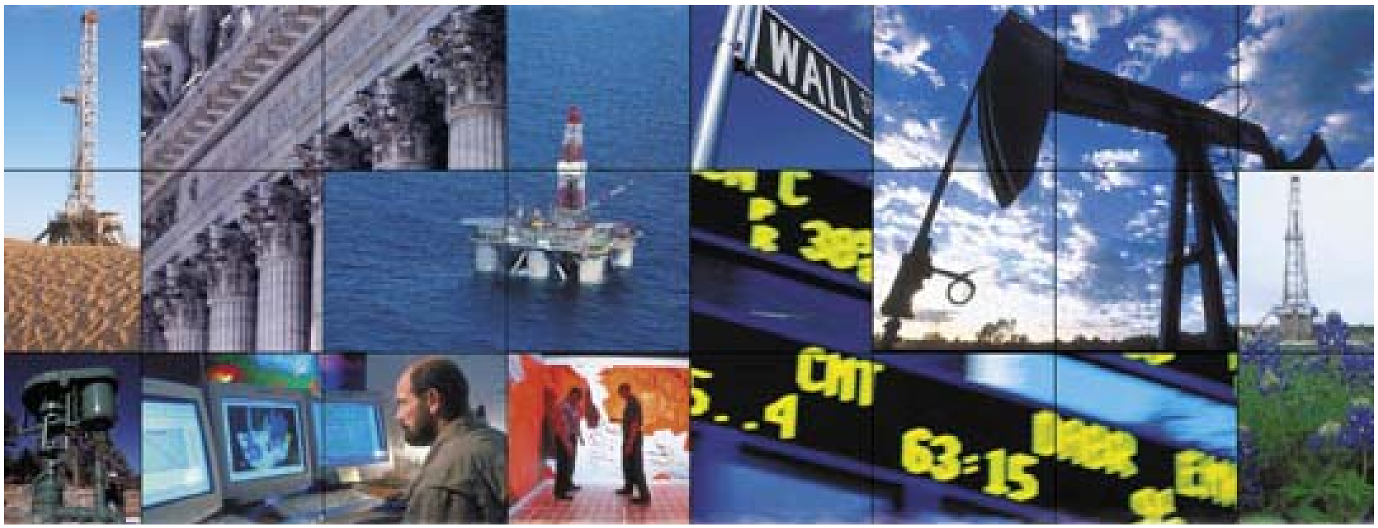
The Global Credit Crisis and the Energy Markets: What Are the Implications?



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October 2008

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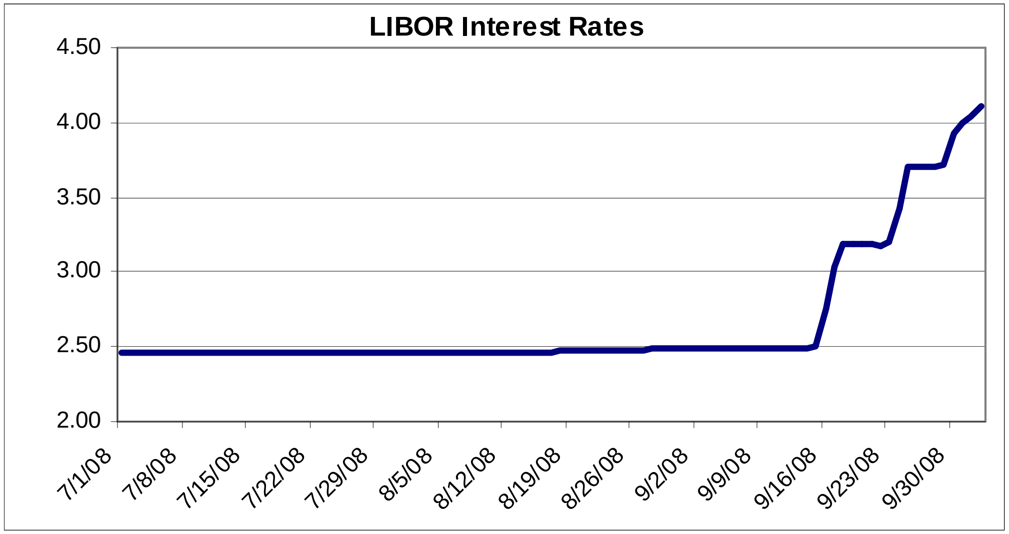
Discussion Topics

- Introduction
- Impact on U.S. energy demand
- Impact on global energy demand
- Impact on capital spending
- Impact on M&A activity
- Impact on alternative energy
- Conclusion

The Heart of the Problem: Constrained Credit

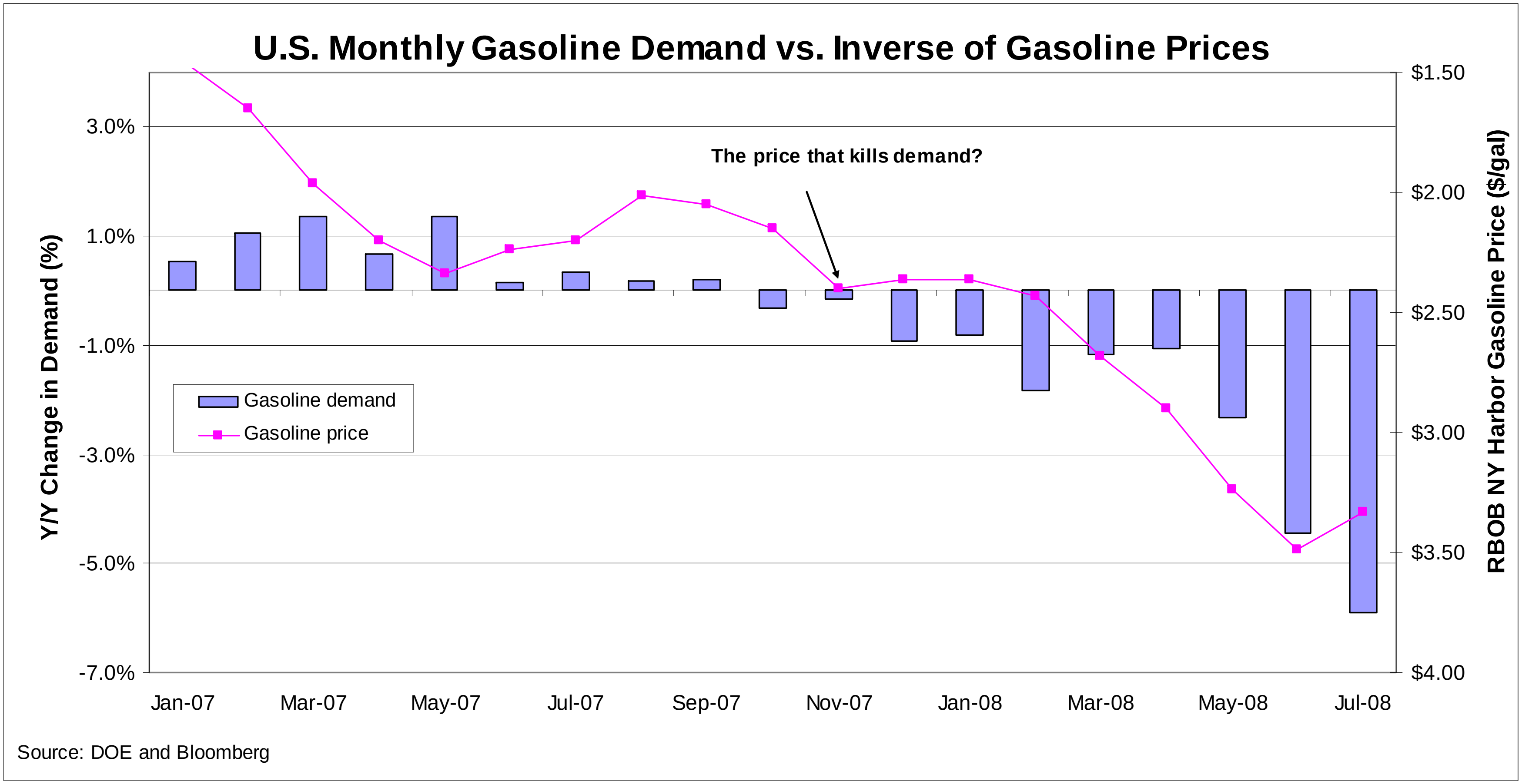
- Over the past two months, the global financial markets have seized up and credit has virtually disappeared – this is inherently negative for all facets of the economy
- While the magnitude and duration of the global financial crisis are still not clear, it is obvious that debt will become both harder to secure and more expensive over the next year
- It is clear from the LIBOR rate trends that, when available, corporate debt will be more expensive



Summary of Impact on the Energy Sector

- **U.S. energy demand** will be notably weaker over the next 6-12 months, since the U.S. is the worst-affected of the major economies
- **Global energy demand** (and energy prices) will be affected as the world grapples with reduced economic activity, but demand growth from emerging markets should cushion the blow
- **Capital spending** is set to fall in all areas (including reduced drilling budgets, fewer rig newbuilds, less infrastructure)
- **M&A activity** is set to slow due to the difficulty of obtaining financing, resulting in more volatile and generally lower asset values; however, cash-rich companies will be presented with opportunities
- **Alternative energy** will not be immune to the broader energy weakness, but should still post above-average growth

U.S. Gasoline Demand Is Down…



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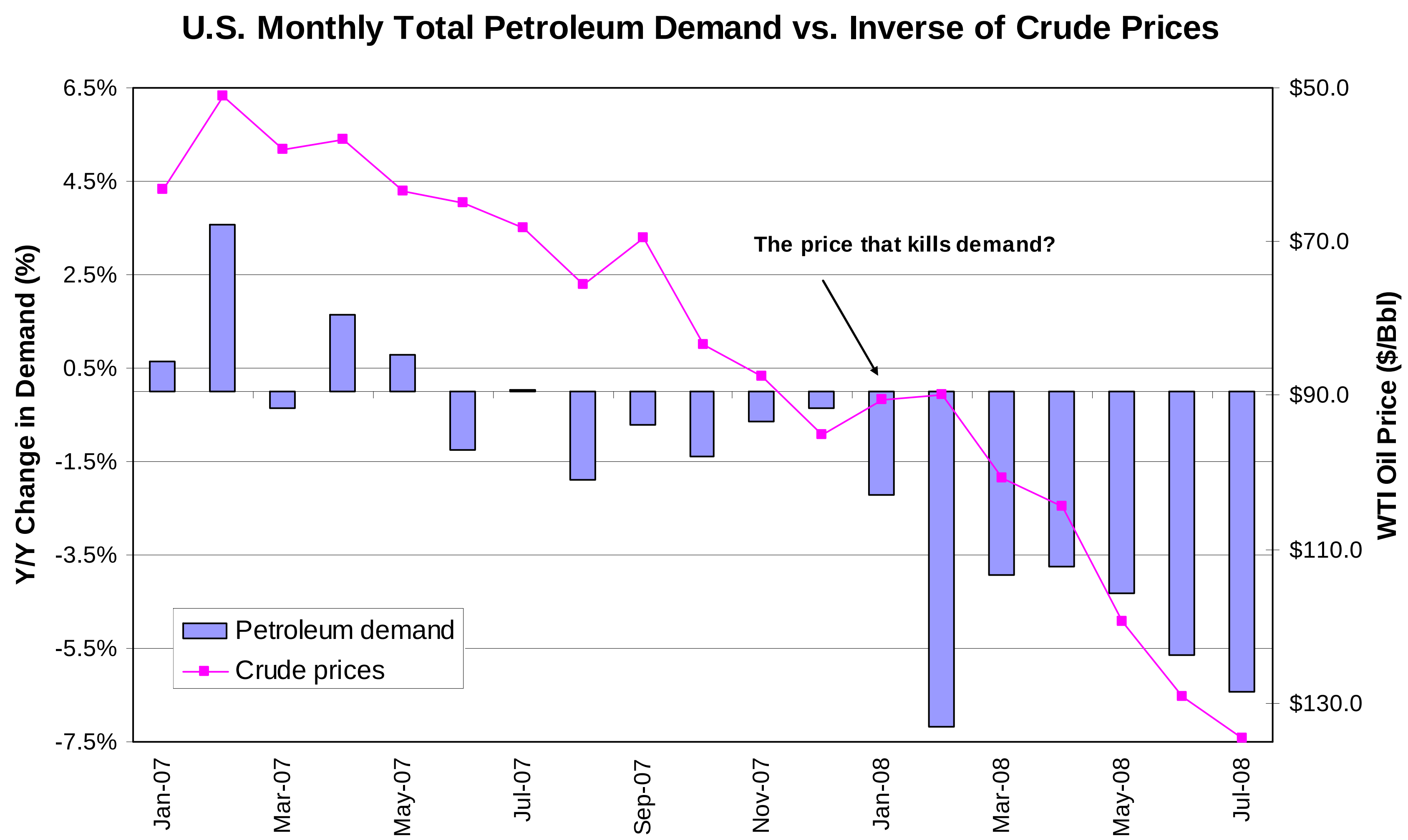
…And So Is Total U.S. Petroleum Demand



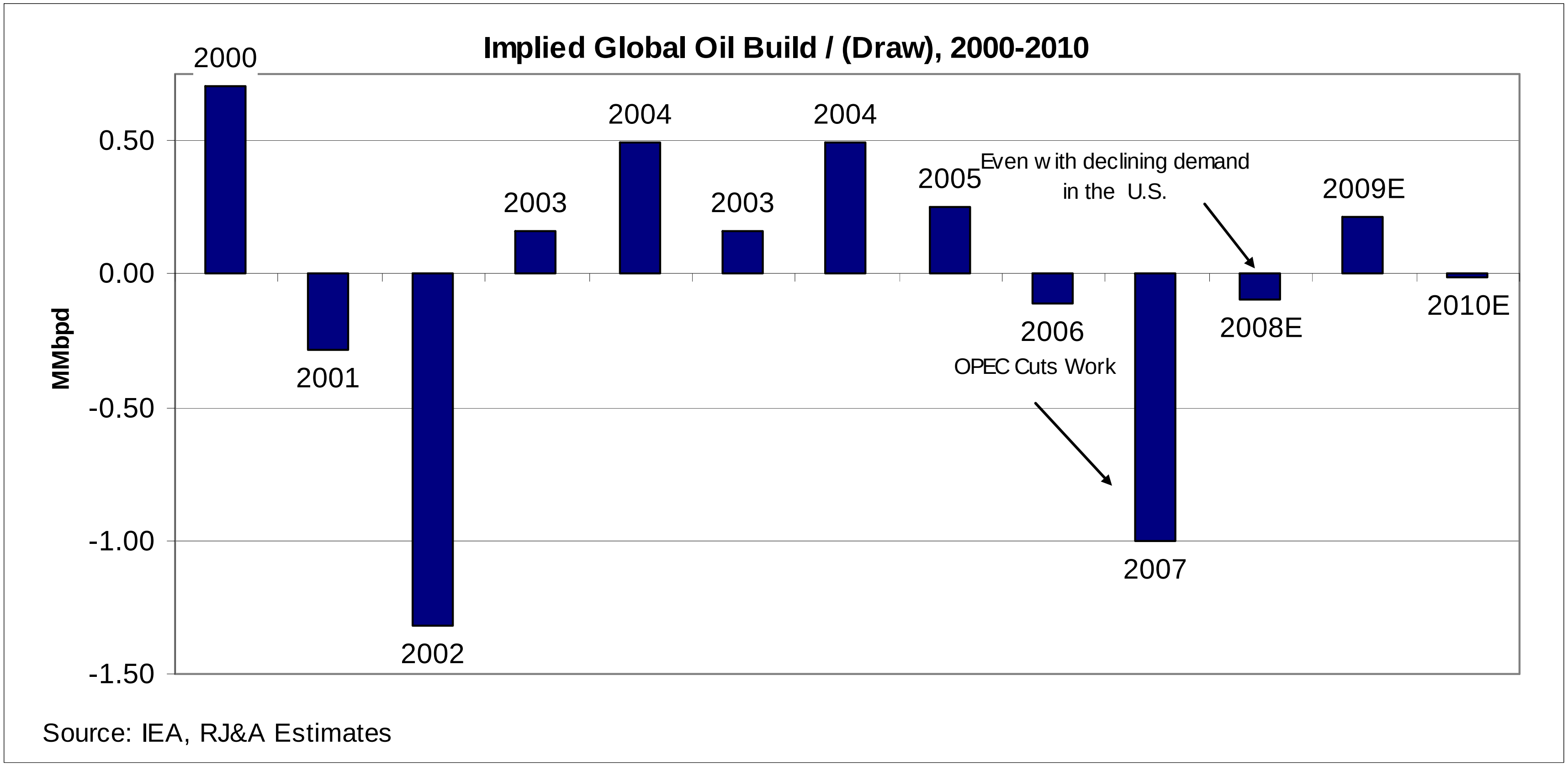
Source: DOE and Bloomberg

Negative Global Oil Demand Growth Is Realistic in 2009

Oil Demand: Year-Over-Year Changes				
Region	Oil Demand 2000-07 Avg.	Oil Demand 2008E	Oil Demand 2009E	Oil Demand 2010E
North America	0.9%	-3.4%	-3.5%	-1.5%
Europe	0.1%	-0.6%	-2.0%	-0.5%
Pacific	-0.5%	-0.6%	-2.0%	-0.5%
FSU	1.8%	1.7%	-0.5%	0.6%
China	6.8%	5.4%	3.0%	5.0%
Other Asia	3.2%	2.3%	1.0%	1.6%
Latin America	1.8%	3.4%	0.4%	2.0%
Middle East	4.8%	6.0%	2.5%	5.0%
Africa	3.2%	1.4%	0.0%	1.0%
Average (RJ Est.)	**1.8%**	**0.4%**	**-1.0%**	**0.7%**
IEA		**0.5%**	**0.8%**	**NA**

Source: IEA, RJ est.

Oil Inventories: Demand Destruction vs. OPEC Restraint



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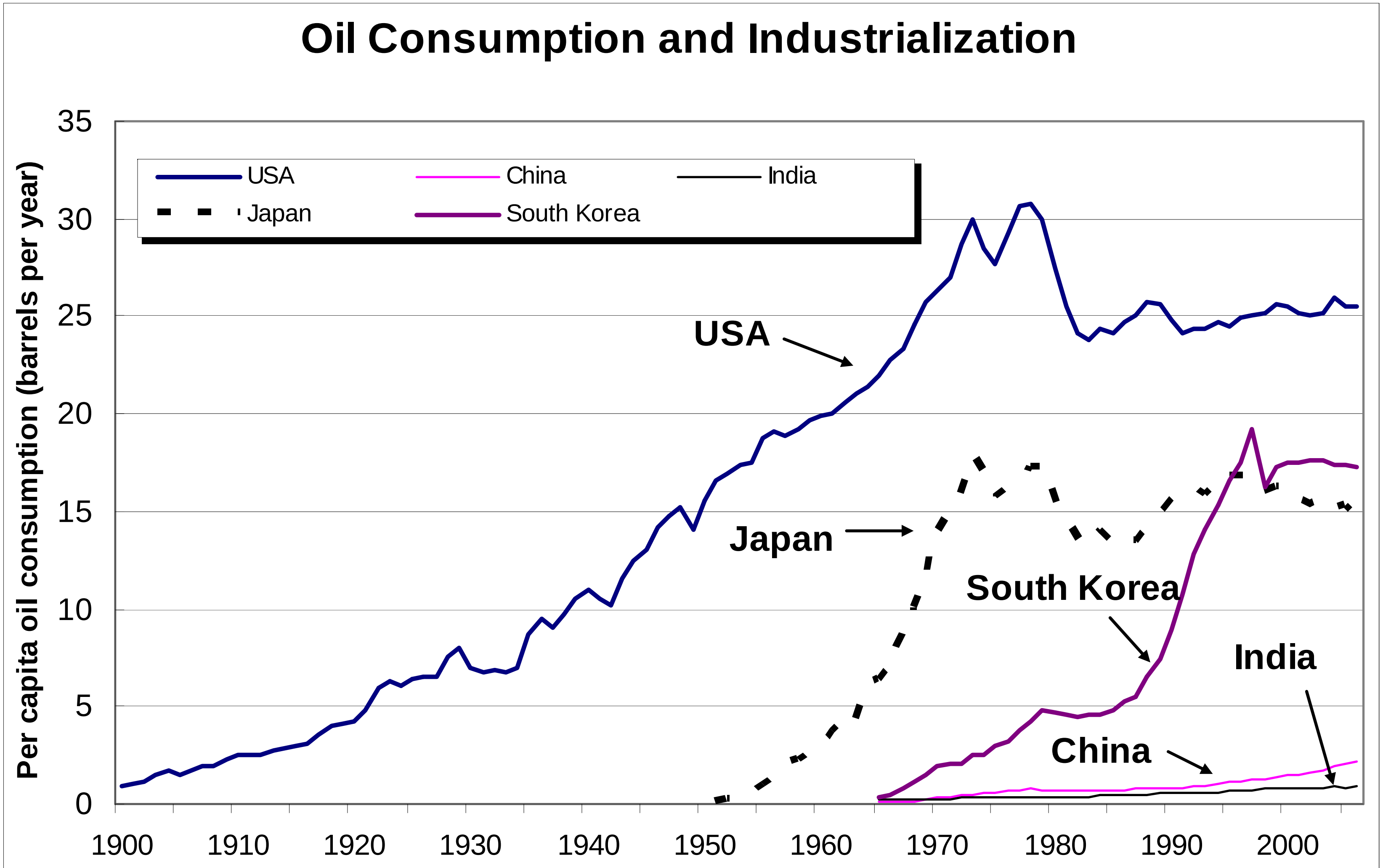
Long-Term: Industrialization Drives Rising Oil Demand



Source: BP Statistical Review of World Energy, CIA World Factbook, Census bureaus, Marc Faber Limited, RJ est.

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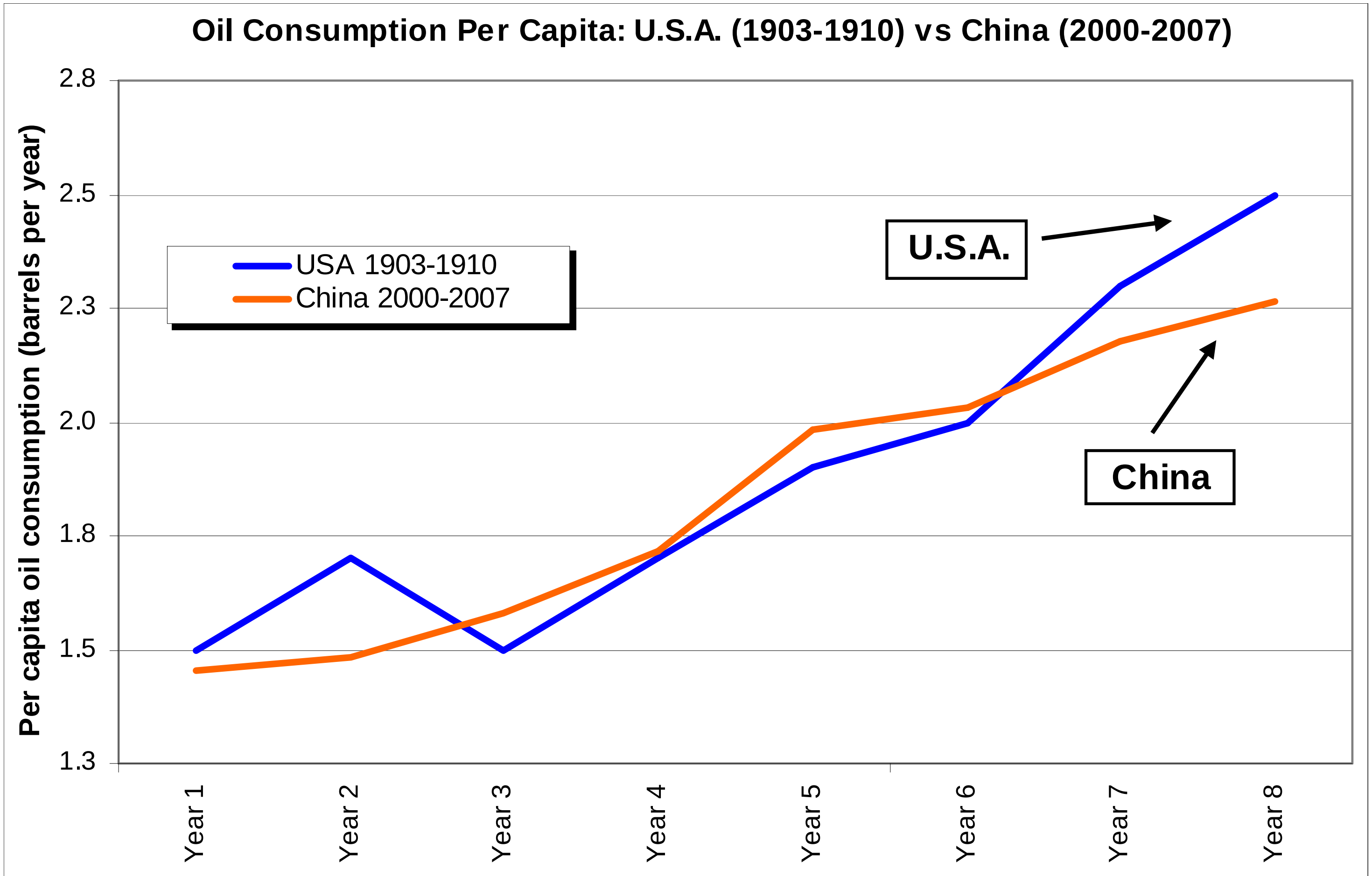
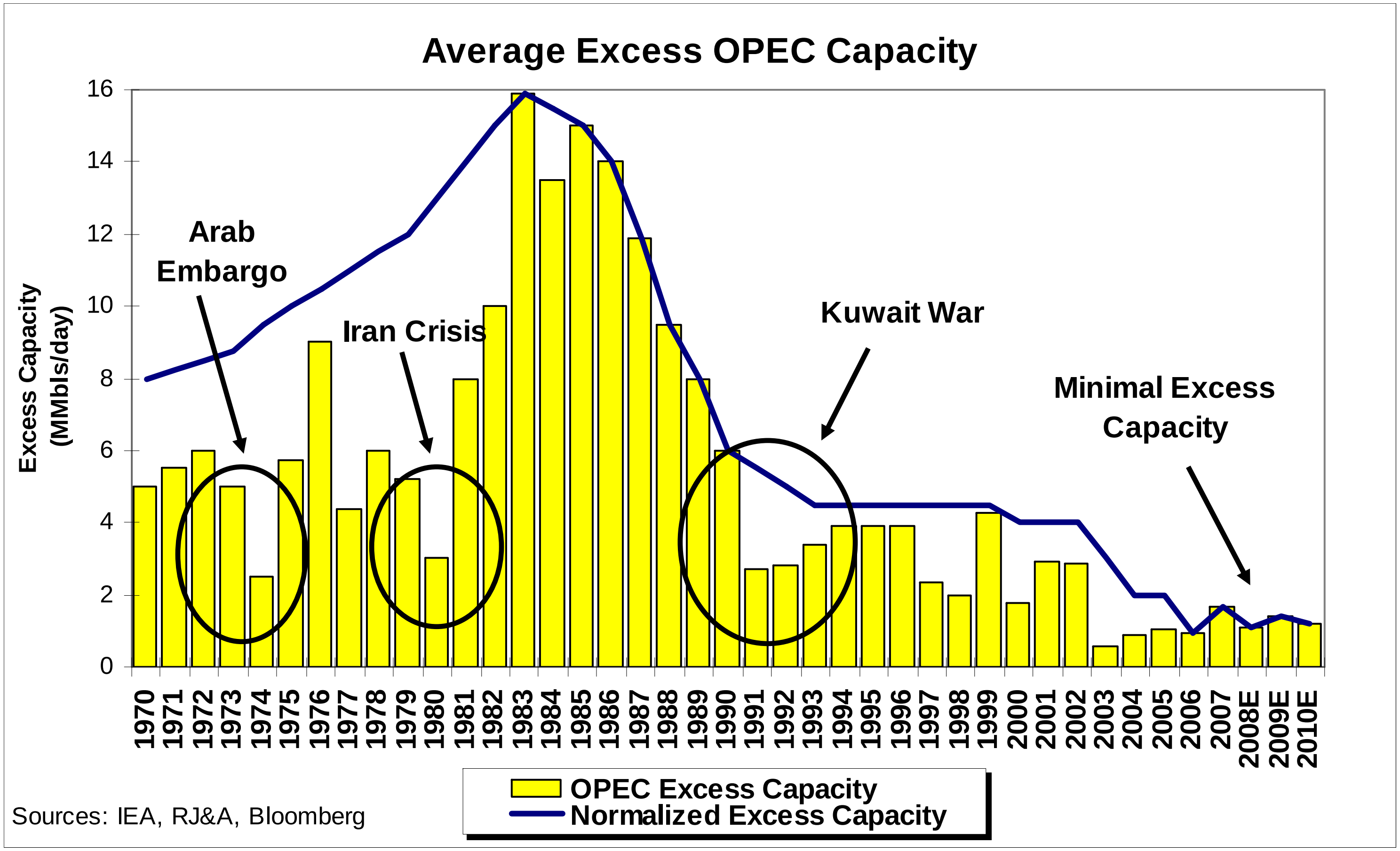
What Inning Is Chinese Demand Growth In?



Source: BP Statistical Review of World Energy, CIA World Factbook, Census bureaus, Marc Faber Limited, RJ est.

Will OPEC's Spare Capacity Expand in 2009?



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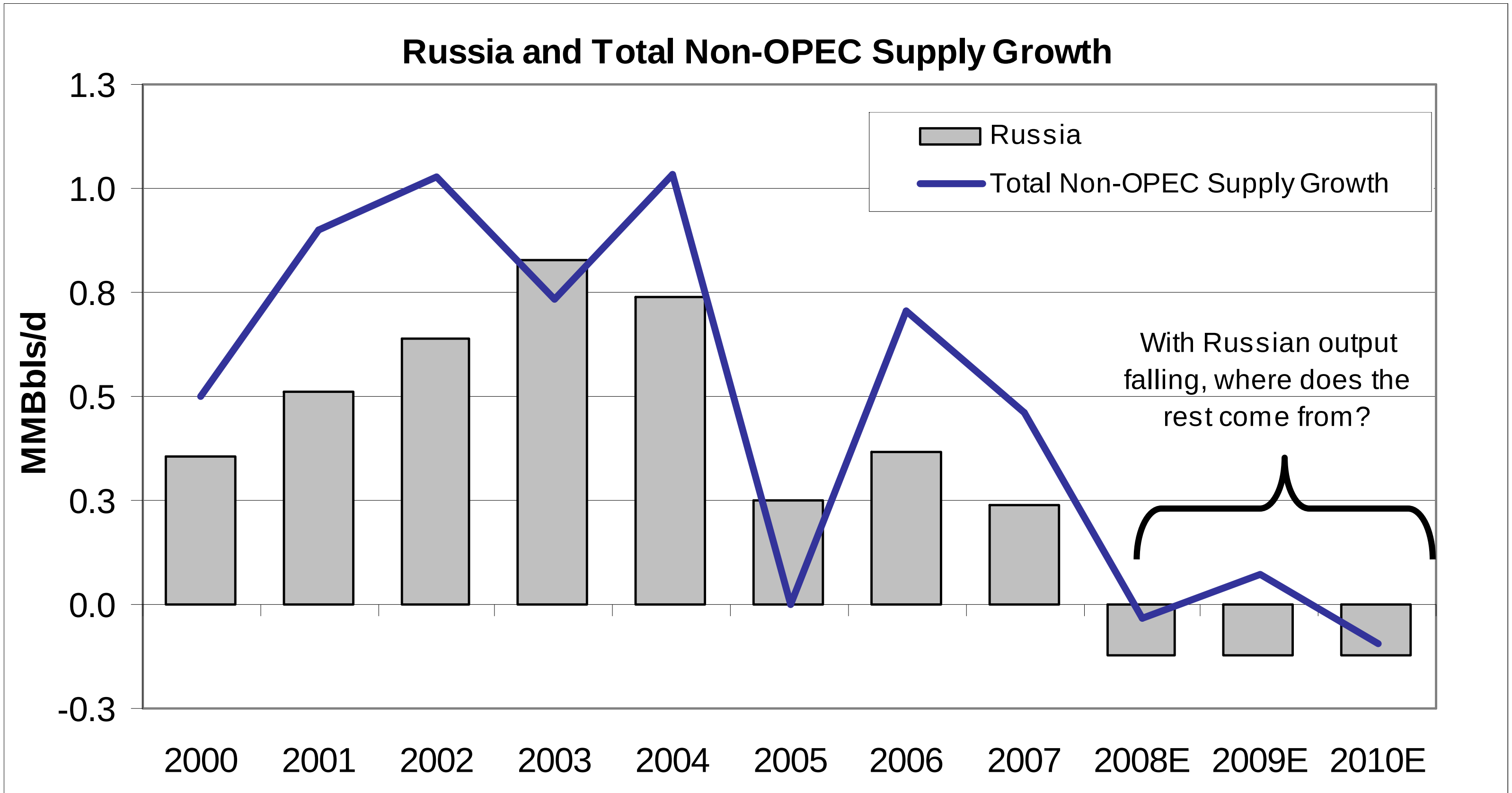
Non-OPEC Supply Growth Is Flat to Down



Source: IEA, RJ est.

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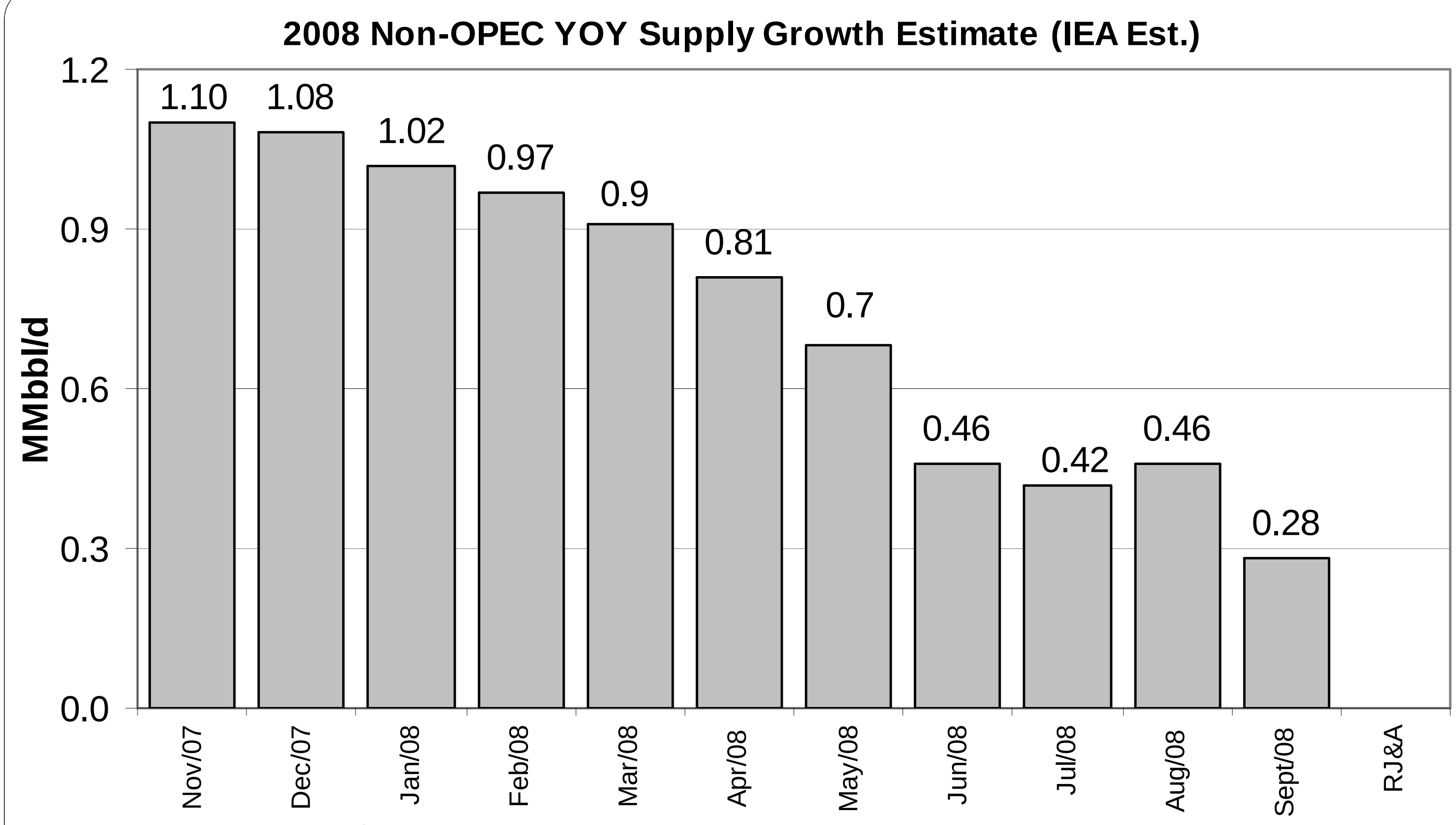
IEA Has Been High On Non-OPEC Supply Growth



Source: IEA, RJ&A Estimates

Oil Prices Reflect a Sharp Slowdown in Demand

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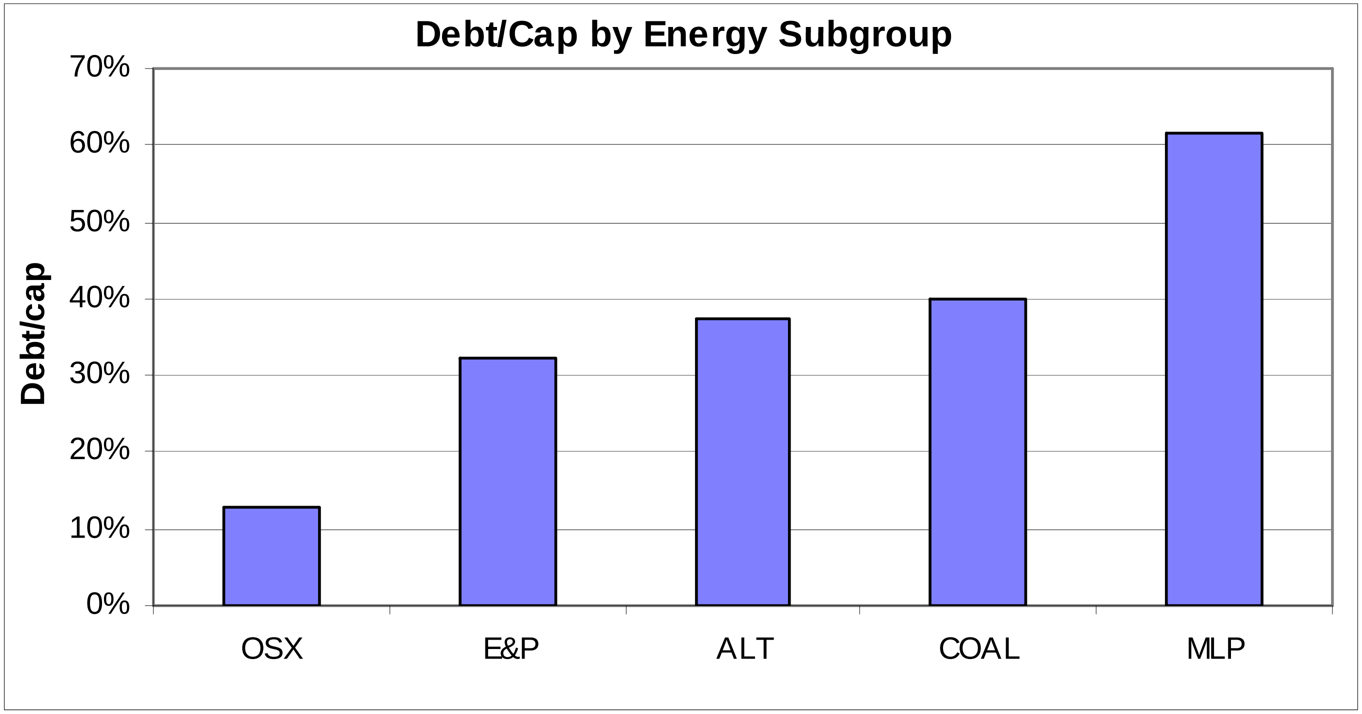
Capex Impact Will Depend on Financial Flexibility



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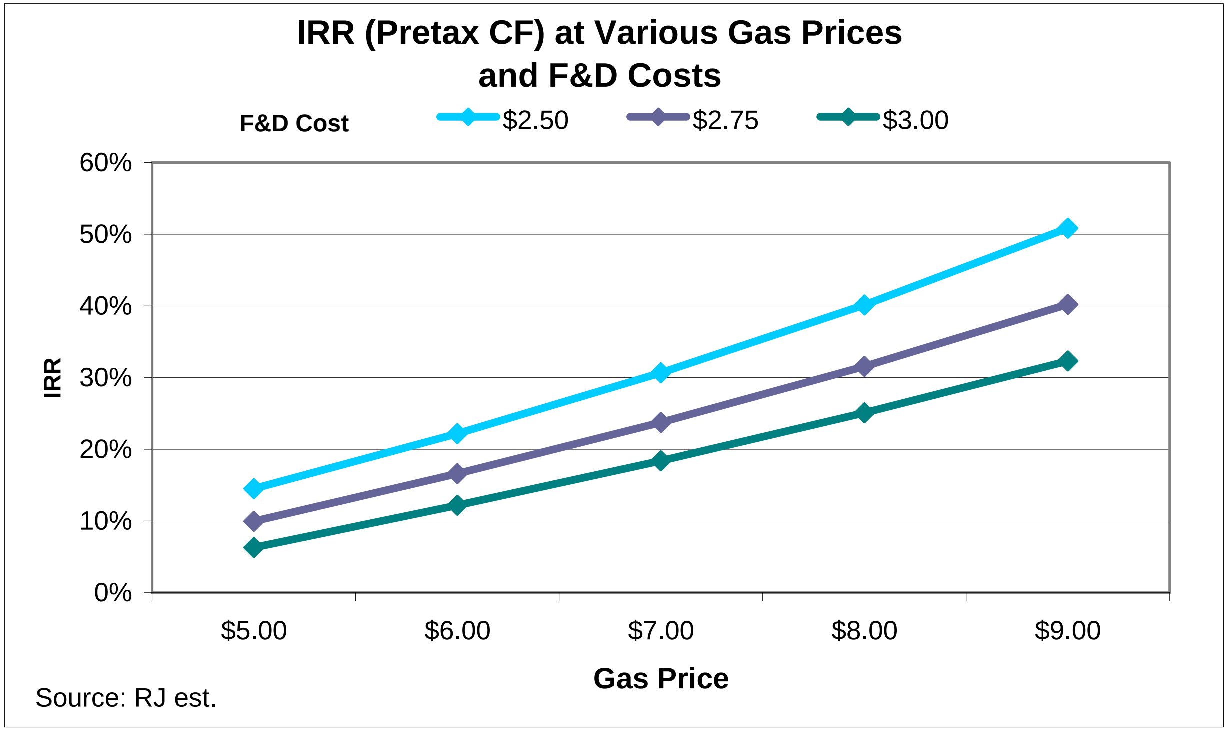
E&P Reinvestment Returns Remain Strong…



Major Assumptions	
Oil Price ($/Bbl)/ Basis Diff.	$90.00/ 5%
Gas Price ($/Mcf)/ Basis Diff.	Varies/ 5%
LOE ($/Mcfe)	$1.70
G&A Costs ($/Mcfe)	$0.60
Production Taxes ($/Mcfe)	5%
Net Revenue Interest	78%
Percentage Gas	70%
Reserve Life	10 years

Source: RJ est.

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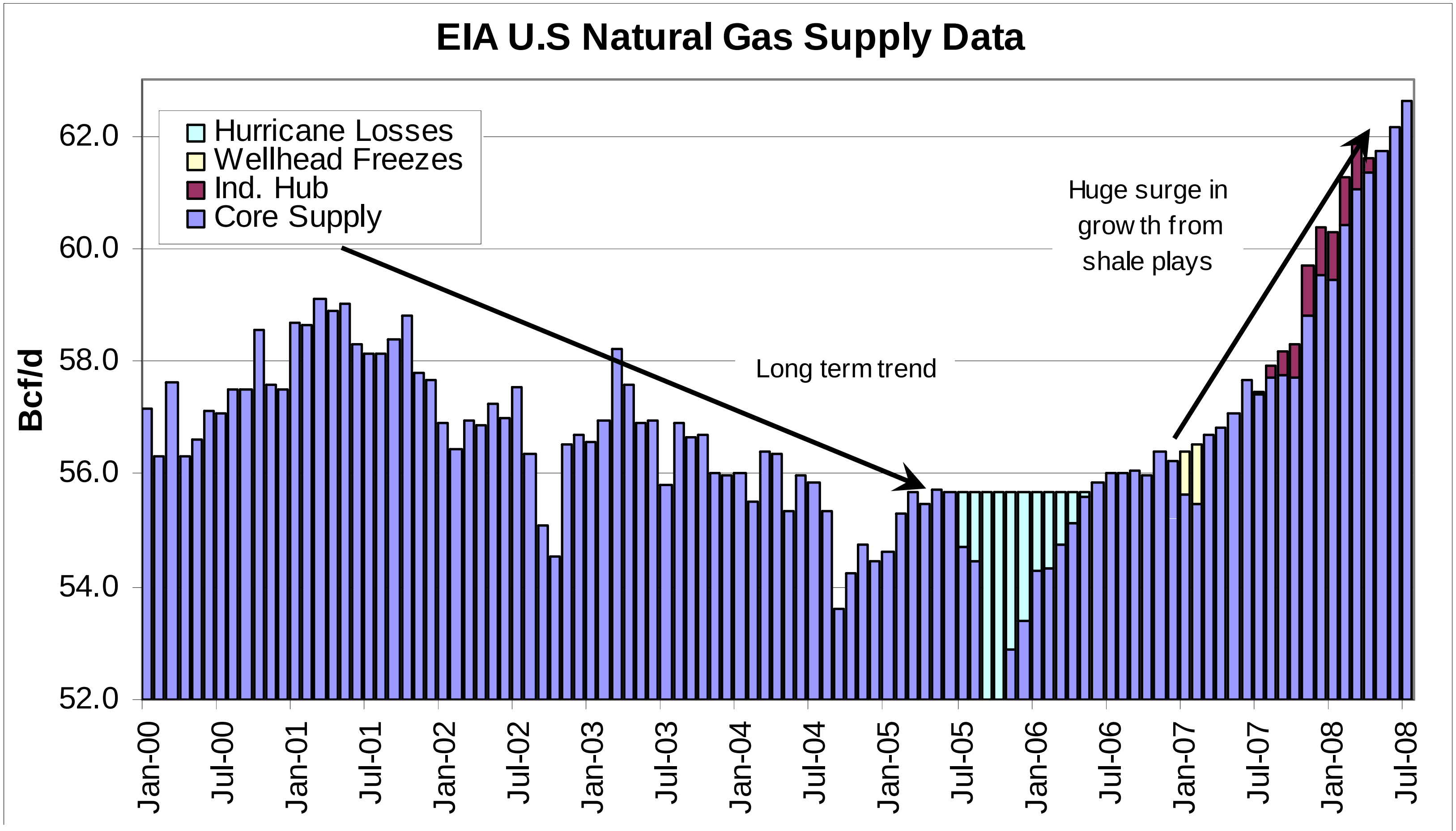
…But E&P Companies Are Cutting Back on Capex

- In the past two months, many U.S. E&P companies have reduced capital spending budgets, citing two main factors: (1) lower commodity prices and (2) a more constrained financing environment
- Historically, most E&P companies – especially small/mid-caps – were comfortable with outspending cash flow in order to achieve faster growth, but in many cases that is no longer an option now
- Because most U.S. drilling activity is natural gas-focused rather than oil-focused, the impact of reduced spending will be most visible in the growth curve of U.S. gas production

U.S. Gas Production Growth Likely to Slow Down…



Source: EIA, RJ est.

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…As the Rig Count Moderates in 2009

US Rig Count Forecast					
	Oil	Gas	Total	% Oil	Q/Q % Chg
FY AVG					
2006	274	1,372	1,649	16.6%	
2007	297	1,466	1,768	16.8%	
2008E	385	1,511	**1,906**	20.2%	
2009E	458	1,228	**1,699**	27.0%	
2010E	498	977	**1,487**	33.5%	
Growth					
2007	8.7%	6.8%	7.2%		
2008	29.5%	3.1%	7.8%		
2009	19.0%	-18.7%	-10.9%		
2010	8.6%	-20.5%	-12.5%		
QTR AVG					
Q108	332	1,430	1,770	18.7%	
Q208	372	1,483	1,864	20.0%	5.3%
Q308	400	1,567	1,977	20.2%	6.1%
Q408E	435	1,566	2,015	21.6%	1.9%
Q109E	443	1,503	1,959	22.6%	-2.8%
Q209E	454	1,314	1,781	25.5%	-9.1%
Q309E	463	1,119	1,595	29.0%	-10.4%
Q409E	473	976	1,462	32.3%	-8.3%
1Q10E	483	963	1,459	33.1%	-0.3%
2Q10E	493	963	1,469	33.5%	0.7%
3Q10E	502	977	1,492	33.7%	1.6%
4Q10E	512	1,002	1,527	33.5%	2.3%

Source: BHI, RJ&A Estimates

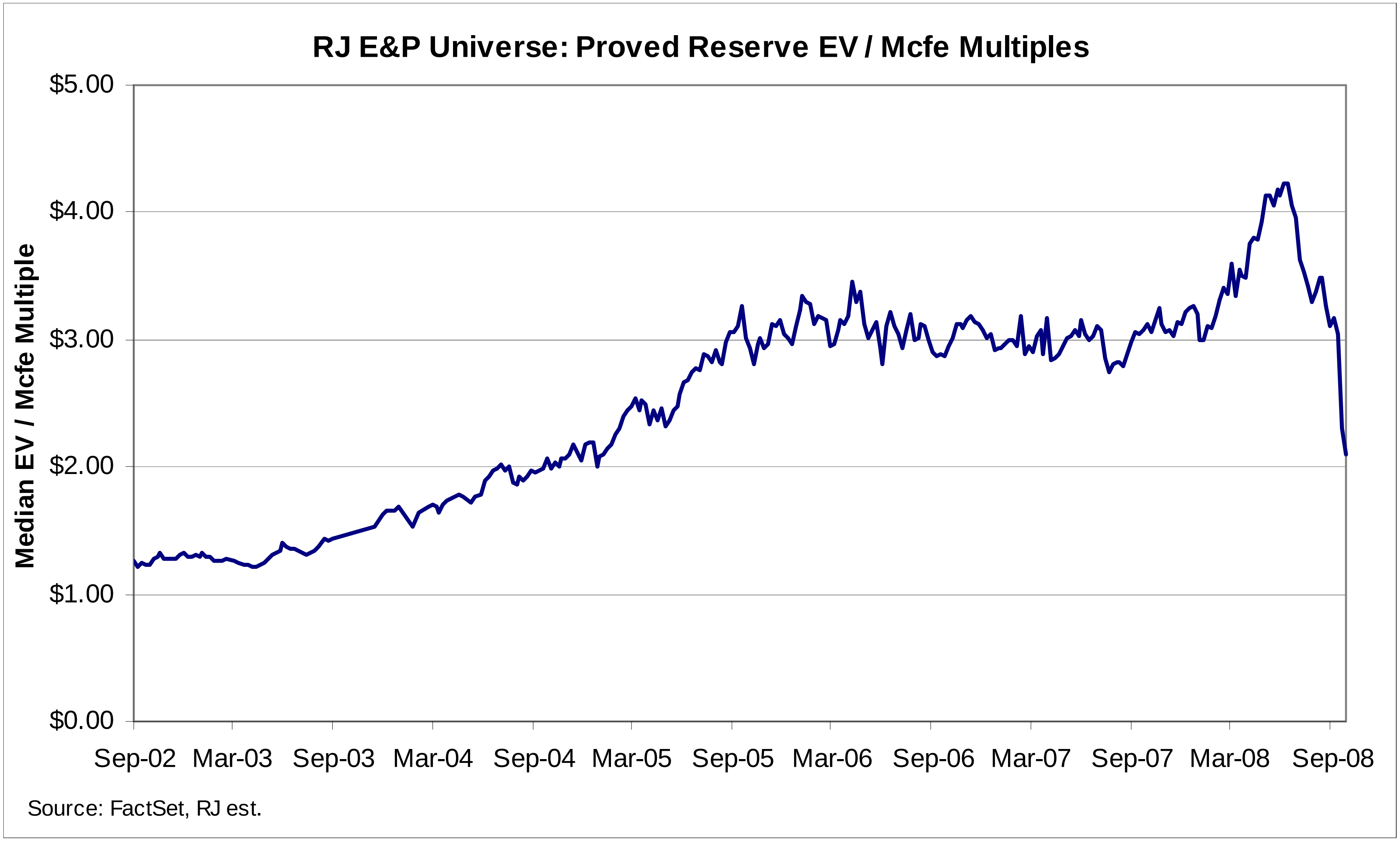
E&P M&A Has Already Slowed from 2005-06 Peaks

Top Deals in the U.S. E&P Space ($2 Billion and Up), January 2004 to the Present

Buyer	Seller	Month Announced	Deal Value ($ B)	$/Proved Mcfe	Core Area
KMG	WRC	Apr-04	$3.4	$1.18	Rockies
ECA	TBI	Apr-04	$2.7	$1.95	Rockies
PXD	EVG	May-04	$2.1	$1.40	Rockies
NBL	POG	Dec-04	$3.4	$2.24	Rockies
XEC	MHR	Jan-05	$2.1	$2.25	Onshore Texas
CVX	UCL	Apr-05	$18.4	$1.75	Multinational
NHY	SKE	Sep-05	$2.3	$7.50	GOM
OXY	VPI	Oct-05	$3.8	$1.45	Multinational
CHK	Columbia	Oct-05	$3.1	$2.61	Appalachia
COP	BR	Dec-05	$35.6	$2.96	Multinational
DVN	Chief	May-06	$2.2	$3.57	Barnett Shale
APC	KMG	Jun-06	$18.0	$3.34	Multinational
APC	WGR	Jun-06	$5.3	$4.03	Rockies
CNQ	APC	Sep-06	$4.2	$2.70	Canada
E	D	Apr-07	$4.8	$4.92	GOM
XTO	D	Jun-07	$2.5	$2.36	Rockies
LTR	D	Jun-07	$4.0	$1.61	Texas
PXP	PPP	Jul-07	$3.6	$2.74	Permian
LINE	D	Jul-07	$2.1	$2.70	Mid-Continent
XTO	Hunt	Jun-08	$4.2	$3.98	Onshore Texas

Source: Company press releases

Asset Values Have Dropped, Presenting Opportunities



Who Has the Balance Sheet to Buy Oil and Gas Assets?

- Large-cap U.S. independents
  - Typical net debt/cap of 10-20%
  - Often free cash flow-positive
  - Above-average access to debt market
  - Historically focused on North American projects
- Integrated majors
  - Typical net debt/cap of sub-10% (sometimes negative)
  - Almost always free cash flow-positive
  - Excellent access to debt market
  - Historically focused on overseas projects, but starting to look closer at North American opportunities
- Both of these categories of companies can act as “buyers of last resort” for corporate and/or property M&A opportunities

Alternative Energy: Who Is Most Affected?

- **Ethanol:** Probably the most difficult financing climate has emerged for ethanol producers, which face the dual challenges of credit tightness and very slim margins due to high corn prices
- **Solar power:** Balance sheets are generally strong due to a historical aversion to debt, but many companies have limited current cash flow, so capacity expansion is likely to slow down (but still grow); on the demand side, utilities are relatively insulated from the credit crunch, but homeowners face tighter credit
- **Wind power:** Most wind turbine producers are likely to continue growing; because turbine demand is almost entirely utility-driven, the demand outlook is favorable
- **Emerging technologies:** Early-stage companies face a much more difficult capital-raising environment, though private equity and venture capital financing hasn't dried up completely

Alt Energy Stocks Price in Near-Term Challenges…

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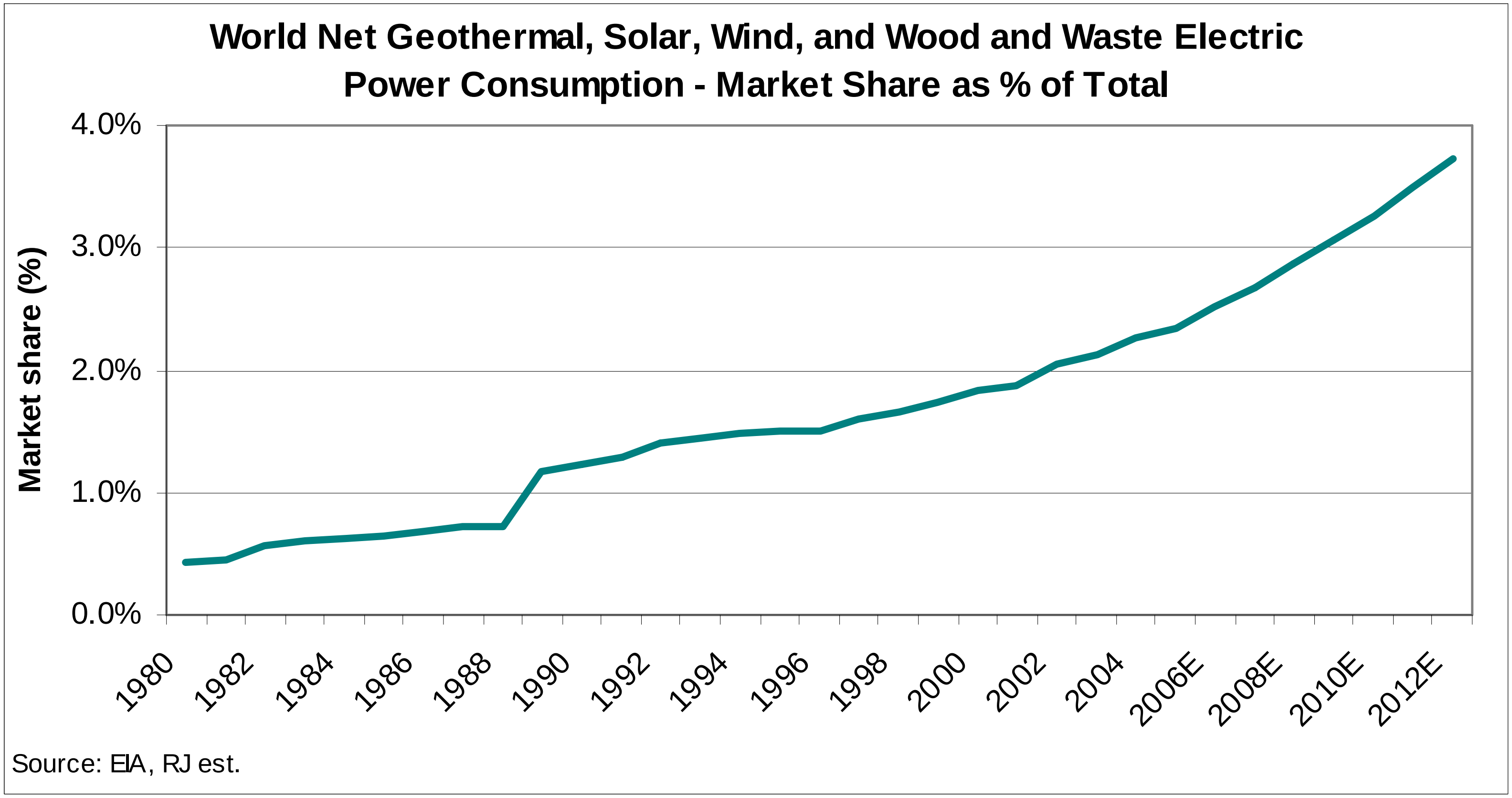
…But, as with Oil, the Long-Term Growth Curve Is Intact



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Conclusion

- Demand for energy – both U.S. and international – will be negatively affected by the economic weakness as a result of the credit crisis
- Lower demand will be counterbalanced – whether in whole or in part, it remains to be seen – by reduced supply due to constrained capital spending, also a function of tighter credit
- The M&A arena will feel the credit pinch, but opportunities abound for companies with strong balance sheets
- Alternative energy will still grow faster than the overall energy markets, albeit at reduced rates

…but, when all is said and done…

- **In the long run, the world still faces a structural imbalance between constrained energy supply and rising energy demand**

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