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EXECUTIVE EDUCATION

The Energy Crisis Has Not Been Solved

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- The most valuable product traded in our global economy is crude oil
- Economic growth is strongly correlated with increasing energy use

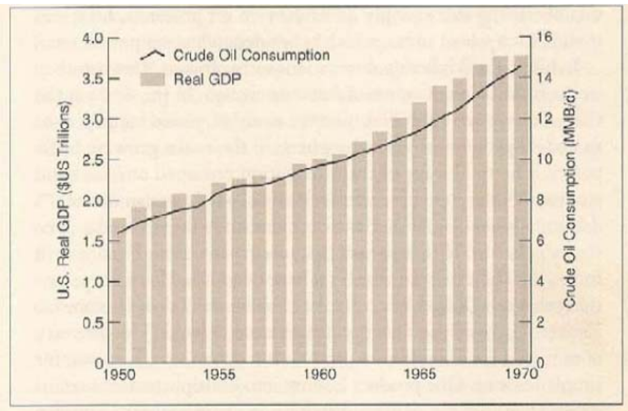
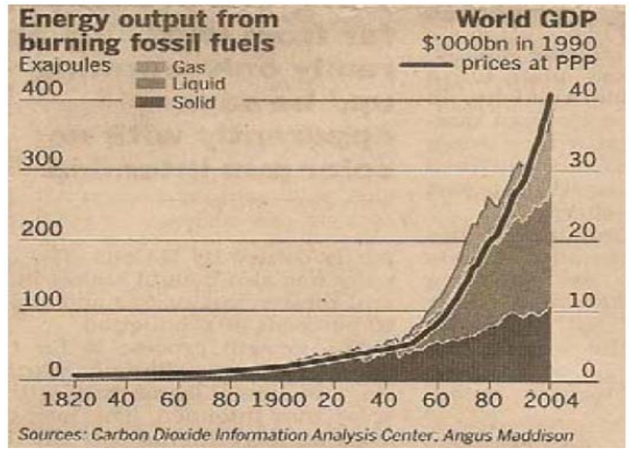
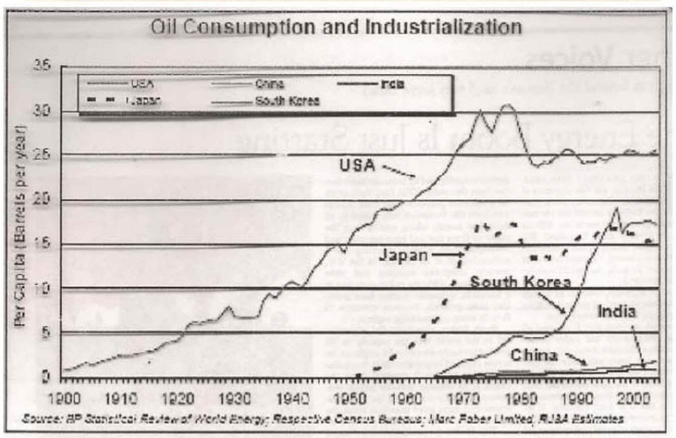
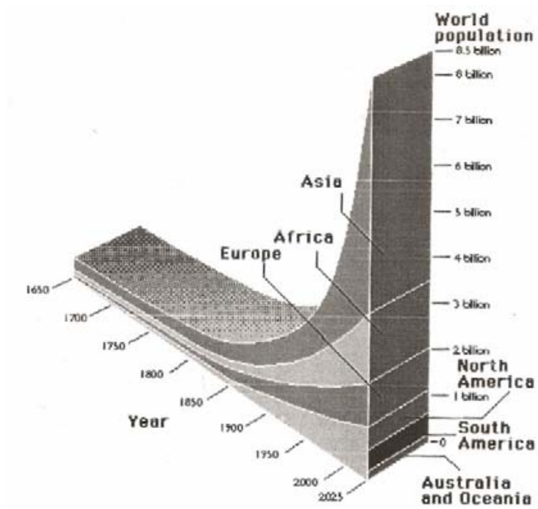
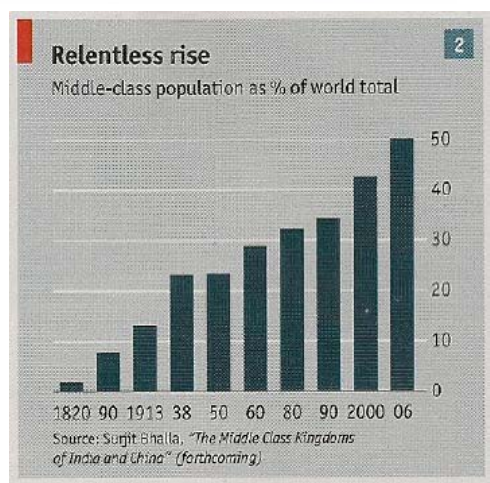


Figure 3.1 U.S. Oil Consumption and Real Gross Domestic Product, 1950-1970: GDP Inflation Adjusted to 2004 Dollars (*Source: Adapted from U.S. Energy Information Agency data*)







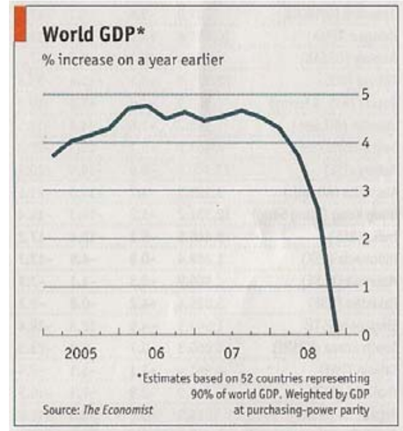


Annual global economic growth:

- 1500 - 1820: 0.3% per year
- 1820 - 1910: 1.2% per year
- 1910 – 2003: 2.3% per year

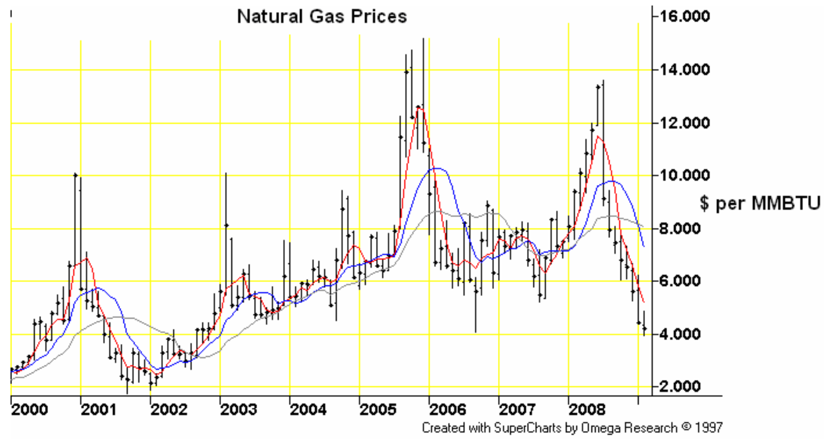
Source: 'Contours of the World Economy 1 – 2030 A.D.', Maddison, Angus.

Unfortunately global factory output is collapsing. According to published reports the output declines in January, year-on-year were as follows: Taiwan (-43pc), Ukraine (-34pc), Japan (-30pc), Singapore (-29pc), Hungary (-23pc), Sweden (-20pc), Korea (-19pc), Turkey (-18pc), Russia (-16pc), Spain (-15pc), Poland (-15pc), Brazil (-15pc), Italy (-14pc), Germany (-12pc), France (-11pc), US (-10pc) and Britain (-9pc).



Edison Electric Institute data indicates total U.S. electrical power production during the first eight weeks of this year was down 2.4 percent from the same period in 2008. Electrical demand in China has also been weak, indicating a slowing or possibly shrinking Chinese economy. In Texas power demand was down roughly 5.4% in the fourth quarter of 2008 from year earlier levels. All point to a slow or slowing economy.

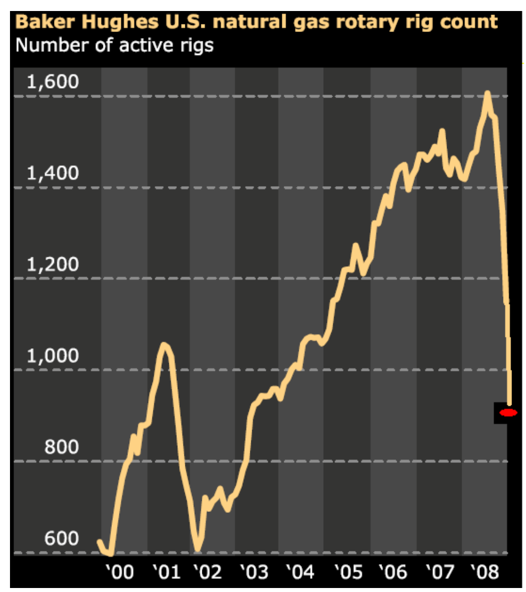
<u>Natural Gas Market</u> – Natural gas is mostly a North American market versus a global market for crude oil. Spot prices of natural gas prices remain near $4 per thousand cubic feet (mcf), well below the $13 per mcf seen last summer. The decline in prices has been severe and swift.



Citigroup had interesting comments on the U.S. natural gas sector in a note they published on February 10th. They have a good description of the supply and demand situation—they call it the 'Razor's edge' - a good analogy:

> 'The natural gas supply and demand balance appears to be teetering between one of two outcomes – the market is either on the verge of oversupply that threatens to keep prices at a minimal level for years to come, or is setting up for a shortfall crisis as supply overshoots on the downside during the correction now underway. This razor's edge offers scant room for the market to be truly balanced, and hence it is probable that one extreme or the other will prevail.'

Citigroup notes the risk of oversupply is increasing as demand continues to fall faster than supply.



A better description might be called the 'Mine shaft'. With current natural gas prices well below levels where most projects are economically viable, drilling down by one-third from last summer and falling weekly, capital expenditures for 2009 severely cut at most companies, depletion in the mid-double digits for many wells, conservation an afterthought (the price of natural gas on a heating content basis is around $24 a barrel), LNG imports to the U.S. minimal as cargos can find better priced markets, natural gas supplies and deliverability might fall down a shaft.

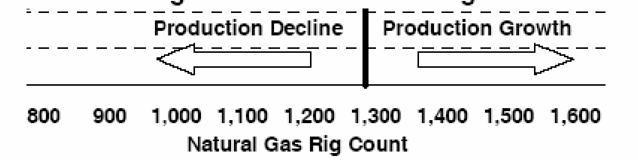
"Gas supplies will soon plunge" was the phrase Houston based energy investment banker Matt Simmons recently used to describe the situation.

With regard to exploration activity, the U.S. natural gas drilling rig count fell below 1,000 for the first time in 5 years this month. Week after week we have seen significant declines in North American drilling activity—which you would expect with product prices at current levels.

Last week the U.S. natural gas rig count was down 32 to 884 for the week ending 3.13.09, and was down 557 compared to the prior year. Since the peak last summer (at 1,606 rigs) the rig count is down 722 rigs, almost 45%, and continues to fall. Drilling activity is expected to continue to decline through the summer months.

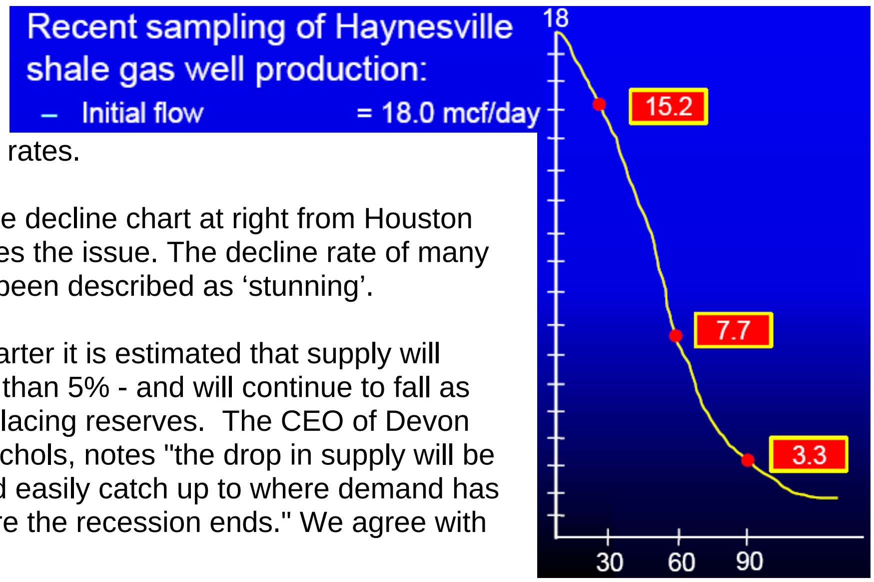
Recent studies by FirstEnergy Capital have indicated that domestic natural gas supplies will quickly fall once the rig count falls below 1,300 – a level they refer to as the 'tipping point' for supply (see chart at right).

Figure 1: U.S. Natural Gas Production Based on 2009 Average Active Natural Gas Rig Count

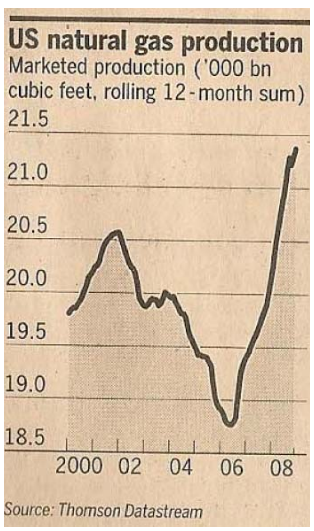


A rig count below 1,000 for any length of time will cause the domestic supply of natural gas to fall quite significantly – we expect over the next 12-18 months it will be very evident that supply and deliverability has been adversely impacted.

Adding to the problem is the fact that many of the new unconventional natural gas fields – the shale formations developed by directional drilling – exhibit what can only be called 'severe' depletion rates.



A 90 day – three month - Haynesville shale decline chart at right from Houston investment banker Matt Simmons illustrates the issue. The decline rate of many shale wells has been described as 'stunning'.



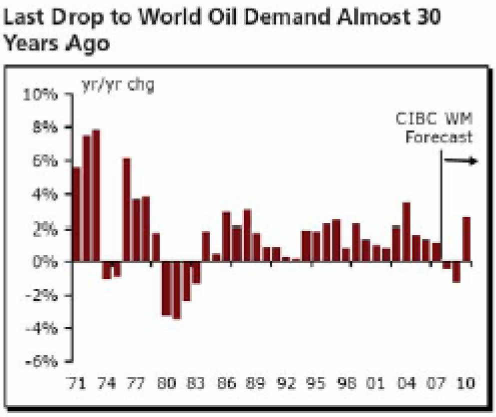
By the fourth quarter it is estimated that supply will decline by more than 5% - and will continue to fall as drilling is not replacing reserves. The CEO of Devon Energy, Larry Nichols, notes "the drop in supply will be so steep, it could easily catch up to where demand has dropped to before the recession ends." We agree with his assessment.

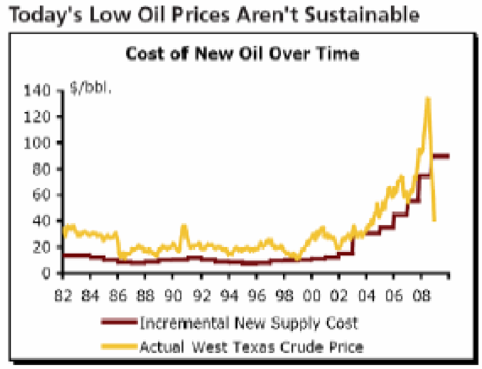
The last time drillers slowed drilling activity at this pace was seven years ago, in the 2001 slowdown. Natural gas futures subsequently advanced 86 percent as supplies were adversely impacted and production levels declined for four years (see Financial Times chart at left).

As demand recovered after the 2001 economic and drilling slowdown natural gas prices had to increase to allocate scarce supplies – creating some incredibly profitable investment opportunities.

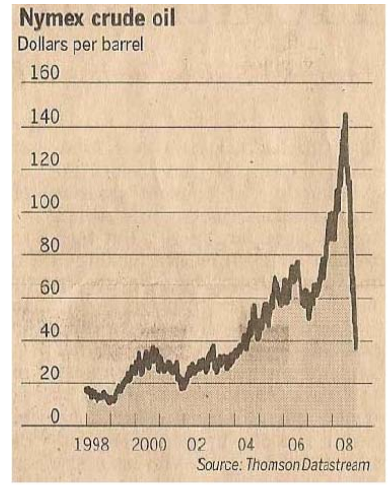
Crude Oil Market – The International Energy Agency cut its 2009 oil demand forecast for a seventh month as the global economic slump saps consumption. Non-OPEC supply growth has stopped as investment drops.

The 2009 oil demand forecast was reduced by 270,000 barrels a day to 84.4 million barrels a day. That represents a decline in demand of 1.25 million barrels a day, or 1.5 percent, from 2008. "The demand collapse has been staggering, based on the whirlwind nature of the slump in the global economy," the IEA said. "The obvious flip-side to this is that lower prices also lead to a supply response."

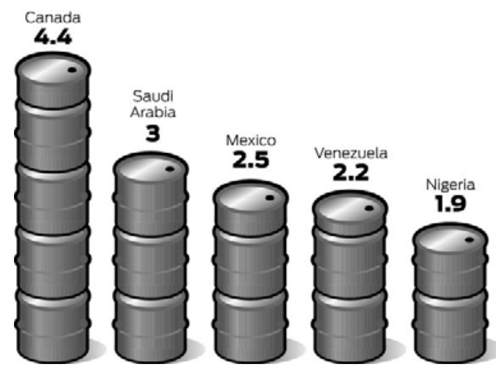




Source: Energy Information Administration, Total, CIBC WM



The Los Angeles Times published the following chart of the source of crude oil imports to the U.S. last month. Note Mexico exports 2.5 million barrels per day to the U.S.

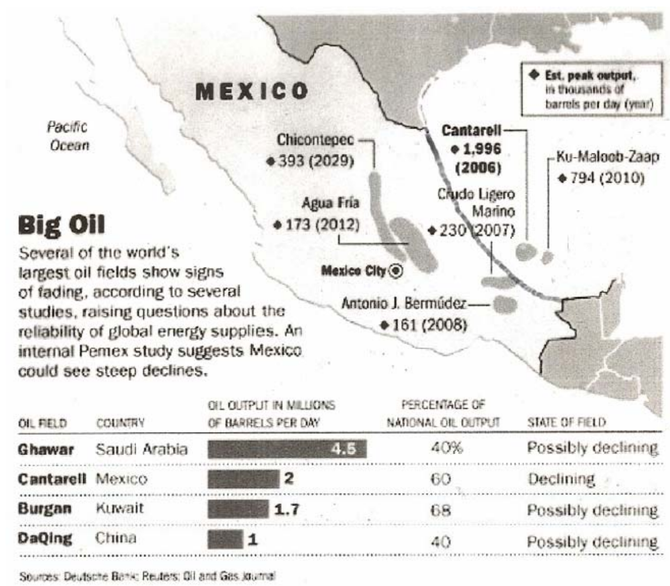


With regard to crude oil production, in a stunning projection the IEA sees a 'massive fall' in Mexico's Cantarell Oil Field production in 2009.

The field was the second largest producing field in the world a few years ago, and produced 1 million barrels per day on average last year—a decline from 1.3 million barrels per day in 2007. In 2009 the IEA expects production to average around 600,000 barrels per day—a decline of 40% from last years production level.

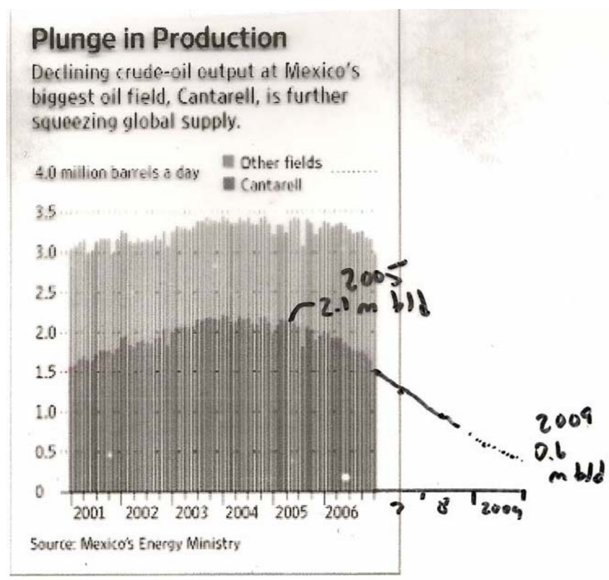
Pemex, the field operator, is experiencing severe problems with natural gas and produced water production from Cantarell wells which results in well shut-ins and abandonment. Additional water separation units are expected to be installed on production platforms. Total Mexico production declined to a 13 year low last year and is expected to fall further in 2009.

With current crude oil prices around $45 substantial volumes of production will be shut-in or not developed according to analysts. Stanford Bernstein analysts forecast U.S. crude oil production will decline by 400,000 barrels per day next year if current crude oil prices remain in place.

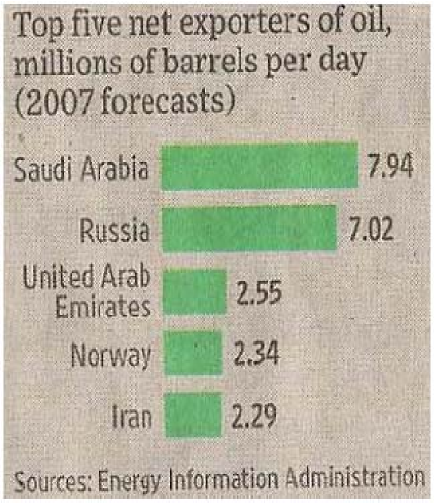


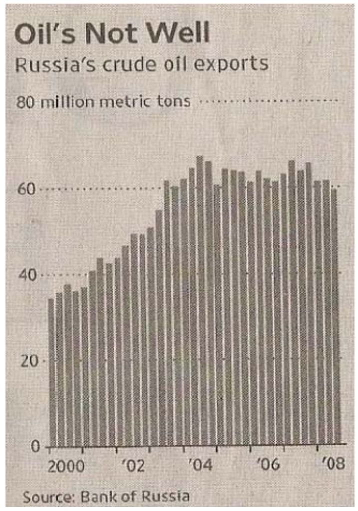
OIL FIELD	COUNTRY	OIL OUTPUT IN MILLIONS OF BARRELS PER DAY	PERCENTAGE OF NATIONAL OIL OUTPUT	STATE OF FIELD
Ghawar	Saudi Arabia	4.5	40%	Possibly declining
Cantarell	Mexico	2	60	Declining
Burgan	Kuwait	1.7	68	Possibly declining
DaQing	China	1	40	Possibly declining

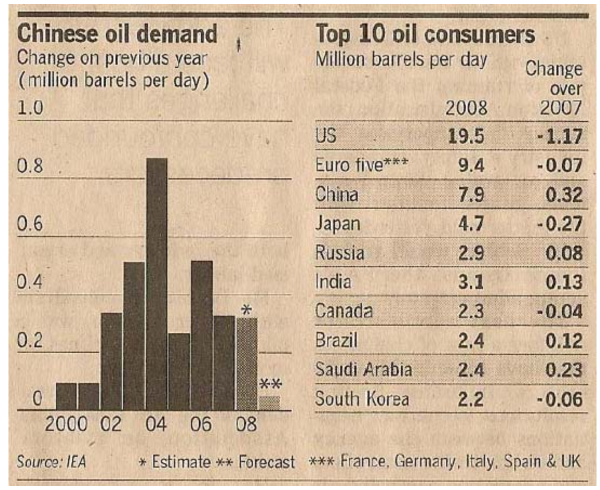
Sources: Deutsche Bank; Reuters; Oil and Gas Journal



Source: 1.27.07 WSJ







The following simplistic valuation model of a corporation that owns a marginal field is instructive of the upside of higher prices. In the first case the value of the cash flow is $2 million. In the second case the price of oil doubles – increasing the value of the cash flow by a factor of forty to $80 million!

Marginal oil field economics: Case 1 - 5 year life of well with oil price constant

	0	1	2	3	4	5	6	
	2009	2010	2011	2012	2013	2014	2015	
Revenues	$26	$26	$26	$26	$26	$26	$0	(well is depleted)
Expenses	$24	$24	$24	$24	$24	$24	$10	(well is plugged)
cash flow	$2	$2	$2	$2	$2	$2	($10)	

sum of cash flow: $2 million

Marginal oil field economics: Case 2 - price of crude oil doubles in year 3

	0	1	2	3	4	5	6	
	2009	2010	2011	2012	2013	2014	2015	
Revenues	$26	$26	$26	$52	$52	$52	$0	(well is depleted)
Expenses	$24	$24	$24	$24	$24	$24	$10	(well is plugged)
cash flow	$2	$2	$2	$28	$28	$28	($10)	

sum of cash flow: $80 million

The concept here – one many investors don't fully appreciate – is that the value of energy assets are very leveraged to the price of the commodity, especially in high cost producing areas.

5 promising stocks under $5

Solid, low-priced stocks are likely to rise faster, in percentage terms, when the market finally rebounds. But invest in them with caution.

By Michael Brush

Here's one big upside to the down market: There are dozens of solid, low-priced stocks on sale. That's good news because stocks going for less than the price of a Big Mac meal can be highly profitable. In a rebound they tend to move up a lot more than stocks with bigger price tags, in percentage terms.

There's reason for caution with under-$5 stocks, however. Companies with low share prices and tiny market capitalizations are speculative. So keep your position size small -- no more than 5% of your investment portfolio.

Enthusiasm for these small fry may not come back until investor confidence returns, so don't expect overnight gains. However, markets tend to price in changes in the economy about six months ahead of time. If the economy is going to rebound toward the end of this year, as some economists predict, these stocks could perk up within a few months.

That said, here are five promising names priced under $5:

A small play on a big food shortage

While **Caterpillar** (CAT, news, msgs) and other giants in agricultural equipment announce big layoffs, a tiny competitor, **Art's Way Manufacturing** (ARTW, news, msgs), says demand for its niche farm equipment is still fine.

"We have the same backlog as we did a year ago," Art's Way Chairman J. Ward McConnell Jr. told me last week. Orders for one line of equipment -- silage blowers -- are actually up.

Yet Art's Way stock has fallen more than 80% from highs last year, trading recently at $3.70 a share. If business truly is holding up, the stock looks like an attractive buy -- partly because costs should be down because the prices of steel and fuel have fallen. We'll find out more when earnings are released in late February.

Art's Way sells specialized equipment such as sugar beet harvesters, which lift 12 rows of beats out of the ground at once before cleaning them and putting them in a truck. It also makes feed grinders, the original products designed by company founder Art Luscombe about five decades ago.

A couple of factors make Art's Way a company Warren Buffett might love. It's the only vendor, or one of few vendors, of some types of farm equipment, says McConnell. So it enjoys pricing power. Next, it sells replacement parts that make for repeat business -- the kind of razor-and-razor-blade model that Buffett likes.

Joe Dancy, a money manager whose **LSGI Advisors** specializes in small and uncovered companies, also likes a line of business picked up two years ago called Art's Way Scientific. It sells mobile science labs used by universities and the government.Dancy also likes Art's Way Manufacturing's huge inside ownership. McConnell holds about 40% of the stock.

Dancy is worth listening to because he has a good record. Since LSGI Advisors' inception 10 years ago, its picks had gained an average of 10.4% a year, compared with a 0.9% annual gain for the **Russell 2000 Index** ($IUX), as of early January. LSGI Advisors owns nearly 5% of Art's Way stock.