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In Their Own Words: Examining Shale Gas Hype

A presentation given throughout New York State and Pennsylvania in March, 2012

By Deborah Rogers

When faced with the economic questions of shale gas development, there is one key point, it seems to me, that all arguments rest on and that is the question of reserves. If you can convince people that natural gas is super-abundant, then the other economic arguments simply fall into place. If shale gas is truly abundant, then there will be long term economic benefits for a region; there will be good jobs creation and tax revenues; and there will be royalties paid out over long periods of time and then spent in the local economy thereby providing induced and ancillary benefits. All these arguments are crucial and important. I would be the last to say otherwise. But what if these reserves are not as sure as industry claims? What if they have been overstated? What if they have been vastly overstated? That is what I want to begin with today. An in-depth examination of reserves because I think we need to look closely at this to determine just how much benefit we can truly expect from shale gas extraction in any given region.

If any of you have heard my other presentations, you may have heard me mention that publicly traded companies have two sets of economics: firstly there is what I call the field economics, which addresses what is actually occurring out in the field with regard to well costs, production history, etc. and the other set I refer to as "Street" economics, which entails keeping a company attractive to financial analysts and investors so that the share price moves up. Today we are going to be looking primarily at the "Street" economics because, in my opinion, this has more to do with the frenzy we have seen in shale gas for the last five or six years.

I often refer to shale gas activities as "drilling for dollars in the capital markets". The primary motivation being to access huge capital investment from Wall Street. Drilling for natural gas was often times secondary and I believe that a reasonable argument can be made that natural gas, in some cases, is simply the facade behind which the industry accesses large capital investment which has been used more for land grabs than actual drilling.

There has been, essentially, a recipe which the industry employed to effect "drilling for dollars" including: 1.) claiming very high reserves, or EUR (which, quite conveniently, could not be verified for a number of years due to lack of historical production) 2.) drilling for press releases 3.) claiming long lives for the wells (which held the promise of

long term economic benefits for a region and its local economy), and 4.) showing rapid growth in production (which made it appear that the strategy was highly successful, a "game changer".) All of these are necessary to give the appearance of a "revolution".

Further, I believe that the financial anomalies seen in shale gas would have been exposed long ago were it not for the massive fees that Wall Street investment banks foresaw in this sector. These banks ended up being the primary "cheerleaders" of this industry as we shall see.

Why are reserves so important?

We have all heard a great deal of talk about reserves and resources and 100 years of gas. I would like to begin by defining reserves and resources and then examining the reasons why reserves and our understanding of them are so important.

This notion that we have 100 years of gas available is misleading at best. Industry uses this figure but it simply isn't true in a way that is meaningful. It is a deliberate confusion of what geologists refer to as resources vs. reserves.

Resources are the total amount of gas that is *potentially available* in the ground. And this is indeed about 100 years worth but this gas is not necessarily available nor is it necessarily economically viable to pull it out of the ground. The Society of Petroleum Engineers (SPE) defines resources as "potentially recoverable but not yet mature enough for commercial development due to technological or business hurdles." In other words, it exists but cannot necessarily be pulled out of the ground because of lack of existing technology or it simply is not economically viable.

Reserves on the other hand are defined by petroleum engineers as gas that can be realistically pulled out of the ground at today's prices and using today's technologies. This is now estimated to be only about 11 years worth. Unfortunately, claiming resources rather than reserves makes it sound as though natural gas is very abundant when in fact it may not be. Obviously it becomes even more problematic when policy begins to be implemented based on resource numbers rather than actual reserve numbers and that is precisely what is occurring at present. That is foolish to the extreme.

So let's take a look at reserve estimates in several shale plays which now have historical production numbers. I think you will begin to see why policy should not be based on such estimates at present. There are quite simply far too many questions and red flags flying.

For a publicly traded company reserves are very important indeed because it is one of the primary gauges that investors and analysts use to determine the attractiveness of a company.

I thought I would let the Clean Skies Foundation, which is an industry funded group tell you in their own words why reserves matter. In a letter addressed to the SEC, Clean Skies states: "Companies are evaluated by its shareholders and other stakeholders based upon the accuracy of its reserves reporting. In particular, **reserves reporting directly impact the amount of capital a company can raise in the marketplace [emphasis mine]**...Reserves are at the core of a company's ability to access the funds needed to meet these huge [drilling] needs."

Reserves are stated by using what is called an EUR which stands for Estimated Ultimate Recovery. This is the reserve figure.

Interestingly, in 2011, I was involved with a project for the Ft. Worth Independent School District involving gas wells near schools. Chesapeake had projected a royalty figure for the district which I thought was too high. So I queried Chesapeake about the underlying assumptions they had used to calculate this figure because they had not published them on their website, only the high royalty claim. They came back to me and said they had used an average EUR of 3.0 in their projections. I found that to be of great interest.

In 2006, Netherland Sewell, a highly respected reservoir engineering firm, estimated that the average EUR for a Barnett well was 1.135 Bcf. Another estimate was done by Labyrinth Consulting in 2011 on a much larger sample of wells which, incidentally, would also have included all the so called improvements in technology which industry claims have occurred. The numbers for the play, however, were still between 1.0-1.5 Bcf for all operators, with Chesapeake actually at 1.5. This is based on actual well production filed with the State.

So Chesapeake's claim of an EUR of 3.0 Bcf for the play is twice as high as the average for their actual wells according to production history filed with the Texas Railroad Commission. Is this an aberration? Let's look at another example in a different shale play.

Powers Energy Investor is an industry publication. In its April 15, 2011 edition it stated: "...the Fayetteville shale play has reached peak production. Based on information available by the plays leader, Southwestern Energy and the Arkansas O&G Commission, it appears that the meteoric production growth of America's third largest shale play is a thing of the past".

The report goes on to state: "another significant misconception surrounding the Fayetteville is the size of EUR per well...on its Q2 2011 earnings call, CEO Aubrey McClendon announced that it had moved up its EUR per...well from 2.4 Bcf to 2.6 Bcf. To put into perspective how ridiculous CHKs claim of 2.6 Bcf is, consider the following: of the company's 742 operated wells completed on the Fayetteville only 66 (9%) have produced more than 1 Bcf and **none** have produced more than 1.7 Bcf. CHKs average Fayetteville well has produced only 541 mcf."

And the play is over half drilled out.

Southwestern had also upped its EUR for their Fayetteville wells from 2.2 Bcf to 2.4 Bcf. The Powers Energy Investor concluded that "...there is little doubt that CHK and SWN have grossly overstated their EUR per well. For example, the 594 wells drilled between 2005 and 2007 are unlikely to ever produce much more than 1 bcf each. While I do not have access to the actual decline curves for these wells, there is no doubt that Fayetteville operators are using unrealistic decline curves that include transient flow (the gush of gas occurring immediately after a well is put on production which should not be included in proper analysis) and b-factors that are unrealistically high".

And lastly we go to the Haynesville and take a look at EURs there. All operators in the Haynesville claim EURs between 5-7.5 Bcf. Actual EURs based on historical production are PetroHawk 4.5, Encana 3.5, EOG 3.0 and CHK 2.75.

Clearly, there is a problem with extraordinarily high estimates of reserves.

One may well ask how they are coming up with such high numbers? A high EUR can be calculated by using what is known as a b-factor in excess of 1. As the Powers Energy Investor stated this can produce EURs that are "unrealistically high" or as Dr. John Lee, a petroleum engineer and architect of the SEC Rule Change for Oil and Gas, puts it, "physically unreasonable" conclusions.

I am not a petroleum engineer or geologist but I am now going to talk about b-factors. This is simply a number which is used to calculate the decline curves for a well and thereby estimate reserves.

The Society of Petroleum Engineers (SPE) have cautioned about using a b-factor value greater than 1. In 2008, SPE claimed that using a high b-factor to estimate shale gas reserves "yields enormously high reserve estimates which has nothing to do with reality".

And yet, some of these shale companies routinely used b-factors in their investor presentations which were at times substantially above 1. For instance, PetroHawk used b-factors of 1.1 and Chesapeake Energy used b-factors as high as 1.4 - 1.6.

The NYT, in their "Drilling Down" series stated that "experts consulted about these b-factors pointed to other variables that CHK and other companies may be using to correct for possible overstatement, but several disputed the degree to which the other assumptions disclosed would compensate, or if they would exacerbate the problem."

When shown a PetroHawk chart by the NYT, Dr. Lee "said he saw no evidence that the company had used any assumption to correct for the resulting possible overestimation." He told the Times in a email that "if you find other cases like this and if you can establish that no minimum terminal decline rate was imposed, you may have identified overstatement of reserves in those cases."

The Times then went back to PetroHawk. PetroHawk claimed that they used an average b-factor of .9 rather than 1.1. Interestingly, however, after the Times questioned them, they quit using the model in their presentations.

2. Drilling for press releases.

Because reserves are so important to the capital needs of a publicly traded oil and gas company, it becomes necessary to promote reserves and particularly any new growth in reserve estimates in order to promote ones share price and gain access to additional monies. Aggressive PR campaigns began to be used to facilitate such promotion. Industry insiders have referred to this as "drilling for press releases".

Monster wells are the darlings of industry PR departments. Monster wells have a very high IP rate in the first 30 days of production. Companies announce when they have hit a monster well by sending out a press release accordingly. In the early days it was assumed that unconventional wells would perform in roughly the same manner as an old fashioned vertical well and so a high IP rate was considered good. But we know now that unconventional wells do not necessarily perform like conventional wells. In fact the so called horizontal monster wells can actually die off much more quickly than the more moderate IP wells.

In a newspaper report dated November 2010, the Fort Worth Star Telegram writes of one monster well in the Barnett belonging to Chesapeake Energy. ".. The southwest Arlington well is suddenly making waves as the mother of all monster wells".

But according to an email dated only 4 months later, March 2011, which was leaked to the NY Times, a Chesapeake geologist wrote to a federal energy official explaining how gas flows from these wells: "some rocks only flow [gas] through the fractures and so they have HUGE IP rates and then quickly die off in a few months. Other rocks are able to flow through the rock matrix (it's actually pore space left behind by organic material that's been converted to hydrocarbons). These wells decline much slower over years."

According to the Chesapeake geologist, it is simply a matter of the porosity of the rock in how the gas will flow and how much will flow. Further, there is no guarantee that these wells will be long lived or sustain large reserves. And yet these are the very wells that industry loves to tout in press releases. Why? Because they can claim large reserves and potentially borrow more monies immediately based on this information.

I asked a friend who is a geologist to pull the production data on this "mother of all monster wells" because I was curious how it had performed to date. Here is what he had to say: "It is an interesting well. It had a huge drop-off between the peak month and the following month but has been rather flat since. Without pressure data, it is difficult to understand. It is likely that they are choking it back. My guess is that, while production

appears flat (a good thing for big EUR), pressure is dropping which means that at some point, production will simply crater."

To reiterate this point of the need for high IP rates, I would like to quote an industry friendly blog site from the Eagle Ford Shale which states "High IP rates may be good for investor reports, but perhaps not that great for the landowner in the long run...As a landowner, you don't have any choice in the matter as to how hard an oil company flows a new well on your land, so, "too bad" if they let it "burn out" early to boost numbers reported to investors".

But this brings up another interesting aspect in drilling for press releases. According to a former Halliburton advisor, horizontal wells are not always the best way to harvest shale gas but drilling for press releases wins out over more prudent decision making. He states: most companies are interested in very high IP for a press release which leads to multi fractured horizontal wells as the preferred...practice. However as production declines, restimulation becomes necessary but the industry doesn't have a good method for restimulating...horizontal wells. Vertical wells may be a better approach."

Yes, but Wall Street has made it quite clear that they are not interested in investing in vertical wells. The monies have almost completely dried up for conventional vertical wells which has decimated that part of the industry.

So we have seen that companies love to drill for press releases. We have also seen that people working within this industry are seriously questioning reserve calculations. And we have seen that actual production history is not correlating to company claims of reserves.

What is next? The claim of long well lives and the booking of reserves in company financial statements which cannot meet SEC requirements.

3. Claiming long well lives

After the Times article came out last summer the SEC began issuing subpoenas to a number of shale gas companies and one of the things they are examining is the method of reserve estimation being used.

The SEC can investigate in two ways: informally, without subpoenas and formally, with subpoenas.

According to Ryder Scott, a premier reservoir analysis firm, 80% of the top 50 10K oil and gas companies were issued comment letters by the SEC in 2010 regarding

anomalies in public filings or reporting. This in itself is not so unusual but some of the comment letters addressed the length of well life and PUDs, which stands for proved undeveloped reserves, which were being calculated by some of these shale companies at apparently "mathematically impossible" rates.

Under the new rules, companies must develop PUDs within 5 years to move them off their books as undeveloped to developed. This is a basic investor protection to ensure that companies do not "book" or claim reserves but never actually develop them. That would, of course, make their prospects look quite attractive while having no real basis for this attractiveness in reality. Interestingly, many of the shale companies were claiming PUDs that could not be developed within the 5 year time frame.

According to the Oil and Gas Journal:

- Devon Energy 9.1 years
- Range Resources 11.8 years
- Chesapeake Energy 13.1 years
- Apache Corp. 15.1 years

None are in compliance with SEC rules.

As you can see, this is obviously problematic because it can give investors a false sense of security about the prospects of a company. That is why the SEC issues comment letters. It is to ensure that companies are complying. If they can't comply, then they must give a reasonable explanation of why they cannot meet the rules. You will see from the following comments that sometimes company explanations are disregarded by the SEC and the company is expected to comply immediately.

So let's examine some of the comments which the SEC has issued to these companies with regard to claims of PUDs:

"Therefore, at this rate of development, it will take at least 50 years to develop all your PUDs, assuming that no additional PUDs are added during that time. Tell us how this complies..." - Securities and Exchange Commission, 2010

SEC questioning well lives:

"All proved reserves must meet the standard of reasonable certainty. Therefore, please tell us the evidence that you have that horizontal wells in this reservoir for the properties in question will produce for fifty years and in some instances longer." - Securities and Exchange Commission, 2010

The companies can ask that their answers be redacted and most do just that. The following comment from the SEC, however, makes it very clear what the companies came back with as their explanation to the above question:

"In regards to your response...as we stated...proved reserves must meet a standard of reasonable certainty. While a few thousand vertical wells, a very small subset of the total wells that were drilled fifty or more years ago, have exhibited long lives, this would appear to support only the possibility that horizontal wells may exhibit lives of fifty years...By assuming well lives that only a small percentage of vertical wells have achieved, it does not appear that your reserve estimate is reasonably certain to occur. Therefore, please revise your filing to limit the reserves to well lives that are more reasonably certain to occur." - Securities and Exchange Commission, 2010

In January 2012, prices plunged to 10 year lows due to a market glut from over-production. According to the DOE, production in 2011 reached 4.5 billion cubic feet per day but demand was a mere 920 million cubic feet per day in comparison. So production exceeded demand fourfold.

Operators have explained this in two ways: firstly, most have claimed that this overproduction is because they are simply so good at what they do they have effected a "shale gas revolution" when in actuality overproduction probably had more to do with meeting debt service for some of these companies ; and secondly, some are now promoting low prices as their intent all along as some sort of "gift" to the people. I find this second claim so egregiously outrageous that we are going to examine it and expose it for precisely what it is: shamelessly blatant spin.

Last month both Conoco Phillips and Chesapeake Energy announced that they would cut production in order to stabilize prices. Unfortunately, there is some question as to whether these cuts are very meaningful. For instance, Conoco Phillips readily admitted that their production of unconventional oil, also called liquids rich production, produces gas as a by-product.

I posited in presentations shortly after these announcements were made that there was potentially another aspect to these cuts. It was highly curious to me that the cuts announced were in the Barnett and Haynesville and were for dry gas only. It seemed quite suggestive that these cuts were, very simply, house cleaning of embarrassing assets. Chesapeake Energy's press release would seem to confirm this.

In January, 2012, Chesapeake Energy announced that "Chesapeake plans to defer completions of dry gas wells that have been drilled but not yet completed, and also plans to defer pipeline connections of dry gas wells that have already been completed."

It is quite clear that millions and millions of dollars have been spent to drill wells that will never be completed and other wells that have been completed will not be hooked up to pipelines. Further, this land where wells have been "drilled but not yet completed" or where wells were actually "completed" but no pipeline connections will be forthcoming was used for shale gas, has suffered environmental degradation but now will not produce revenues of any kind in the way of royalties or taxes. Further the land is now virtually worthless for any other use since no complete reclamation plan is in place. I

have been arguing for quite some time that shale gas wells, because of their questionable economics, may not be the highest and best use of the land. My case is getting stronger.

This is not the first time that producers have announced cuts in production in an attempt to stabilize prices. It happened last in 2009. Reuters did an interesting piece which highlighted what had actually occurred.

According to Reuters: "Chesapeake's production actually rose in the second quarter of 2009 after cuts were announced, as increasing output from new wells more than offset the cuts it made at existing facilities, company data show...analysis of the data suggested that, after cutting more than it pledged in the first quarter (of 2009), Chesapeake ramped production back up just a few weeks after announcing the second reductions."

It is interesting to note here that just a few months after these cuts were announced, Fitch downgraded Chesapeake Energy as being at risk of debt breach.

Reuters analysts concluded that "the doubling of cuts announced...as prices continued to decline, could only have lasted 26 days at that rate."

It seems highly suggestive that meeting debt service won out over stabilization of the markets.

Martin King, an analyst at FirstEnergy stated, "In the past, those that shut in typically talked up a storm ... but when the data finally came in, little had actually been shut in."

As to the current cuts which were announced in late January, Keith Barnett, executive VP at Springrock Production which forecasts US natural gas supply said, "The market doesn't think there is a lot of production cutting going on".

And prices have continued to fall since these cuts were announced. The market is clearly not stable.

Further it looks as though the oversupply will continue. Reuters went on to say that "the U.S. government on Tuesday increased its 2012 production forecast for the second time since the production constraints were announced; it now expects output to climb 2.6 percent versus last year to a record high".

This is obviously problematic for the stabilization of gas prices and the natural gas market in general.

And now I want to quickly address that second point I mentioned earlier which is the claim by some operators that low gas prices are some sort of "gift" to the people. I found dozens of references to this but I decided in the end to use this one for illustrative purposes. I chose the keynote address at the Gas Insights conference held in the

Marcellus last September. This conference was sponsored by the Marcellus Shale Coalition which is of course a group funded by industry. So I think it is safe to consider this address as indicative of what the industry purports as a whole:

"This new energy supply revolution in the U.S. is so enormous that American manufacturers now enjoy natural gas costs that are the lowest in the world. Since 2008, the abundant supply of natural gas has dropped the price of natural gas by 67%, providing an economic stimulus of \$250 million per day, far exceeding any benefit from government stimulus efforts that are inflationary and simply add to the debt burdens we are passing on to our children and grandchildren. This domestic energy cost advantage is already attracting industrial jobs back to the U.S."

This begs the following rhetorical question: Are we to truly understand that the natural gas industry has worked diligently, *putting its own interests aside, to deliberately drive prices to 10 year lows* so that 1.) manufacturers can "enjoy natural gas costs that are the lowest in the world"; 2.) "an economic stimulus of \$250 million a day" could be provided, unselfishly, though this has placed some natural gas companies on the brink of bankruptcy and lastly, 3.) the "domestic energy cost advantage [could] attract industrial jobs back to the U.S." even though producing gas to this extent in turn jeopardizes hundreds of thousands of jobs in the natural gas industry itself? All of this out of the goodness of their hearts?

Quite the contrary. In an earnings call for financial analysts, Mr. McClendon of Chesapeake Energy stated the industry's goal of pricing parity with crude: "...that is obviously the Holy Grail for our industry is to have gas achieve oil pricing parity in the US."

With crude prices hitting all time highs in 2011, oil pricing parity is extremely unlikely to result in low gas prices and the above mentioned benefits to the American people. These benefits of jobs and economic stimulus will only accrue if gas prices remain depressed for the long term. But if gas prices remain depressed for the long term, it will prove exceedingly difficult for these companies to continue the "shale gas revolution".

Gas prices are at ten year lows for one reason and one reason only: because these operators continued to produce all the way down this slippery slope and have glutted the market. Any attempt to spin this into a "gift" is just that - spin.

Now, just a brief note on jobs creation. According to the Bureau of Labor Statistics, a low point for employment in the oil and gas extraction sector occurred in 2003 with approximately 118,000 jobs. Between 2003 and 2011, job growth in the sector amounted to about 56% to reach 186,000 jobs by yearend 2011, a net gain of 67,900 jobs. But to put this into perspective, this job creation amounted to 1/20th of 1% of overall employment figures in the US. There are currently 12.8 million unemployed. A growth of 67,900 jobs in the entire oil and gas sector, onshore and offshore, during a period of "game changing", "revolutionary" activity in the natural gas markets

demonstrates beyond a shadow of a doubt that jobs creation is overhyped to the extreme.

"Financial Co-Dependency"

I want to conclude with a section I am calling "financial co-dependency". I am of the opinion that this frenzy in shale gas would have been exposed long ago if it weren't for the massive fees that large Wall Street investment banks could potentially envision in the M&A sector.

The mergers and acquisitions market for shale assets has exploded in the past year to eighteen months. According to Platts Oil and Gas Reporter, "Shale plays accounted for 80% of the \$28.1 billion total for upstream deals done in the third quarter...quadruple the value of shale deals done a year ago. Shale accounted for 46% of all energy M&A in third quarter".

This equates to substantial fees. Energy M&A has become one of the most lucrative profit centers for these banks.

I would like to delve into this "financial co-dependency" a bit further because I think it is important to note the driving forces behind this so called "revolution" have not only been the aggressive reserve estimations and convoluted financial engineering of shale gas companies themselves. They have been enabled on a massive scale by large investment banks on the Street who foresaw massive fees and spun the hype every bit as much as the companies.

Since Chesapeake Energy recently announced that they intend to issue more senior notes and divest more assets in off balance sheet transactions in an attempt to shore up their ailing balance sheet, I thought we might look in depth to see what role these Wall Street banks are playing in that very deal.

On "Feb 13, 2012 (BUSINESS WIRE) Chesapeake Energy Corporation... announced that it is commencing a public offering of \$1.0 billion of Senior Notes due 2019...BofA, Merrill Lynch and Morgan Stanley & Co. LLC will act as lead book-running managers for the notes offering".

"Closing for the note offering is expected Feb. 16. Bank of America/Merrill Lynch, Deutsche Bank Securities Inc., Goldman, Sachs & Co., Morgan Stanley and RBS Securities Inc. are joint book-running managers for the offering".

With regard to the divestiture of assets in off balance sheet transactions, "Jeffries & Co.'s Ralph Eads is advising Chesapeake on its assets sales". It is interesting to note

here that Ralph Ead's also serves as a Director on the Clean Skies Foundation which was founded by and currently funded by Chesapeake Energy.

I decided, for illustrative purposes that it would be interesting to examine the analyst recommendations on Chesapeake from some of these same companies that are underwriters and advisors in these deals. Please note the dates of these recommendations and keep in mind that Chesapeake announced their offerings on February 13, 2012. Clearly it takes several months lead time to organize these transactions. So many of these banks made their analyst recommendations shortly before or right at the time of the Chesapeake flotations.

The analysts at Goldman, Bank of America/Merrill Lynch, Deutschebank and Jefferies rate Chesapeake Energy as follows:

"Chesapeake Energy (NYSE: CHK)'s stock had its "neutral" rating reaffirmed by equities research analysts at Goldman Sachs...Also, analysts at Bank of America (NYSE: BAC) initiated coverage on shares of Chesapeake Energy in a research note to investors on Thursday, January 5th. They set a "buy" rating on the stock.

On Feb 13, 2012, BofA/Merrill Lynch reiterated it's buy rating on CHK. Morgan Stanley, overweight.

Deutschebank rates CHK a hold as of mid Feb., 2012 and according to Jefferies, Chesapeake Energy Buy rating is maintained, Dec. 29, 2011.

I will let you draw your own conclusions about such recommendations from the very banks who are making large fees off these transactions with Chesapeake. But I will end with comments from other analysts at firms that are not making a huge fee off the transactions.

In the Deal Pipeline, dated February 15, 2012 or two days after Chesapeake's announcement, an analyst stated "Chesapeake is in serious trouble...Its Enron style of media hype, off-balance sheet accounting and excessive leverage has finally caught up with them. The end appears to be close."

It should also be noted that Zacks has placed Chesapeake Energy on bankruptcy watch with an Altman Z score of .84. Anything below 1.80 is considered to be at high risk for bankruptcy.

And lastly, Neal Anderson of Wood Mackenzie, a premier Research and Consultancy company, stated "It seems that the equity analyst community has played a key role in helping fuel the shale gas M&A market, acting as the chief cheerleader for shale gas plays."

I will conclude tonight with a comment that I truly wish I could take credit for because it is so brilliant...but I can't. It belongs to Warren Buffet. He made this comment after the

economic meltdown in 2008 but I find it very apropos now with regard to shale gas companies and the current price of natural gas. And the comment is this: when the tide goes out, that's when you get to see who has been swimming naked all along."

Thank you.