

The Future of America's Natural Gas

By Dr. Marc Bustin, Editor, Casey Energy Opportunities

Marc Bustin Ph.D., F RSC, is the senior researcher for unconventional oil and gas for Casey Research.

Considered to be one of the top authorities in the world, Marc is the go-to expert for multinational oil and gas conglomerates, and is brought in to help evaluate finds around the world. Marc has reviewed more projects on his own than some exploration teams put together.

Recently, at the [Casey Research Energy Summit](#) – a two-day event showcasing the top minds in the energy industry – a small group of investors became privy to Marc's take on the future of natural gas... his prediction for where prices are heading next year... and some of the companies he believes will profit when natural gas takes off.

For an excerpt of Marc's presentation, read on...

What You Need to Know About Natural Gas

Natural gas prices have plummeted. Natural gas storage is at a maximum. Producible gas reserves are up 35% in the United States. Demand for natural gas is down because of the economy.

Then suddenly a new-found U.S. natural gas producible reserve is suggesting that the U.S. in fact will be self-sufficient or close to it as soon as 2030.

Why are all of these things happening?

A bit of it, of course, is due to the drop in the overall economy, but it has a lot to do with the concept of gas shale, and that's really what we are going to focus on today.

Where does all this gas come from?

The gas comes from organic matter that is within the rocks. It evolves, bacteria work on it, it generates gas, and most of that gas and oil end up in reservoir rocks, such as the sandstone.

But the rocks with which the organic matter is in the first place, are fine-grained rocks that we use the loose word "shale" for. These are the rocks that have the organic matter that's cooked, that generates the gas. The gas is generated from the fine-grained rocks and it migrates out into our reservoir rocks, which is our conventional gas production.

If we were to look at the shales in more detail with an electron microscope, you would see that it's very fine grained and the pores are small. If we look at sandstone, the porosity and

permeability (the ability of gas to flow through the rock) is great, and that's why we can produce it at commercial rates. Traditionally we haven't been able to produce any gas from shales because there are no pathways for the gas to go out at a very fast rate. Until recently we've pretty much ignored these rocks.

If we blew up the pore in a sandstone to the size of the Eiffel Tower – by comparison, the pores in shales are about the size of an eyelet on the compound eye of a bee. In other words, they're really, really small. There's a tremendous size/scale difference and that's why the gas tends to be retained.

The reason that gas migrates out of the rocks is that they're surrounded by water. All the other pores are filled with water, and because gas or oil is lighter than water, there is a buoyancy effect. It migrates until it's trapped.

But shales are so fine grained, you don't need a conventional trapping mechanism. The gas does not move out of these shales because of capillary pressures, and also because the gas is actually absorbed into the mineral and organic surfaces.

That means when we find these shales and these types of deposits, they are not localized. They are very, very laterally extensive, so you don't really have any exploration risk in terms of finding the shale. The exploration risk is really in whether or not you can develop it.

The economically recoverable gas from the shale is now possible due to development and success of horizontal drilling technology – the development of fracking technology. Higher gas prices in the past gave us the confidence and allowed us to develop the technology. A huge factor is confidence. We know we can do it economically, so we are willing to spend the big dollars that are required to drill and frack one of these wells.

Technology has now made it possible to produce gas from rocks that we couldn't produce gas economically 10 years ago.

In the past we were drilling more and more wells that produced less and less gas. All of a sudden, things have changed with these shale wells. We are drilling fewer wells, and each well is producing more and more gas – because of the frack technology and the wells being horizontal. Things have changed completely.

Finding and development cost

How much it costs to produce the gas, of course, is going to be equivalent to the resource size – the producible resource size. The bottom line is, there's lots of gas that could be produced at relatively low prices. For example, EnCana's projection of producible natural gas is absolutely enormous.

What's happening in the rest of the world?

The rocks are a little bit different in North America than everywhere else, but there certainly are similar shales in Europe. North Africa has wonderful-looking shales, and so do a few other places – Eastern Australia, for example. There is no reason to suspect they won't be equally successful producing gas from tight rocks in those areas, as we have been in North America.

There are certainly lots of gas shale potentials in Europe and many companies like Conoco, Exxon, Shell are there – Shell is drilling some gas shale wells in Sweden, for example. Other companies are working in England.

So all of a sudden we are looking at a world where natural gas is perhaps not in a shortage anymore.

Part of the problem is, we have been a little bit too successful – if you're a service company, a drilling company, or a producer in North America. We've been so successful in finding gas, we've driven the price way down. The price, in fact, has been too low to sustain drilling and, in some cases, production.

We've got a market, we've got demand, and we have supply. U.S. natural gas storage is at a maximum. We're filled up; no more natural gas, please... for the time being at least.

So what does it mean for the price of natural gas?

Since gas prices have taken a major dive, so has the rig count. The rig count is how many rigs are actually drilling. Currently in North America, we're probably at a 35% to 40% usage of the rigs. This is way down, and the implication is important for the gas price.

Low gas prices means, suddenly we're drilling a lot fewer gas wells. No one wants to drill anymore.

Currently, in order to maintain U.S. production, we have to add between 17, 18, 19 Bcf (billion cubic feet) additional gas per day. At the current rate of drilling, we're adding 9 Bcf a day production, so there's obviously a shortfall.

And a shortfall means eventually the price of gas has to start going up.

Right now, there are a huge number of drillable wells – prospects all ready to be drilled. As soon as the natural gas price gets up above a certain level, these wells will suddenly become economic, and people will start developing them.

So it's not like we are going to find new "stuff," we're just going to start producing the "stuff" we already know exists.

Which companies are going to lose and which are going to win with the new metrics of natural gas?

Losers:

- Gas-weighted companies are in trouble today.
- Small companies with debt, I think are finished – if they're gas producers.
- Companies only operating in North America are going to have a tough time. If you're offshore, you're probably in a lot better shape.
- Companies with no technical expertise – producing gas from shale requires a team of people who actually understand what they're doing.

Most small companies just can't play in that sandbox. When things go bad, they go bad. You have to be able to drill a number of wells successfully to be successful. If you can only drill one well and you have no operational experience, you should just take your wagon and go home. That leads me to the winners.

Winners:

- Big companies with some capital to play with.
- Companies with operational experience, or companies that have the depth to develop that operational experience.
- Companies with early land position and low finding and development costs or finding and exploration costs.
- Technically competent companies.
- Small companies who have decent land and have big-company partners.

Some small companies got an early land position, opening the door for big companies to farm in on them. These are perfect situations. The big company is paying the load, and the small company will still get the advantage.

My prediction for gas prices

In my opinion, gas will be \$6 or \$7 next year. Prices will then soften down to \$4 or \$5 at the end of next year. Ultimately, the best buys for investors will be small-caps that are farmed out or big companies that have long-term positions.

As mentioned before, Dr. Bustin's expertise in unconventional gas and oil is unmatched in the industry. If you're interested in receiving Marc's entire presentation from the Casey Research Energy Summit... learning from his considerable acumen in natural gas... and getting the scoop on which stocks he believes are poised to profit from the inevitable increase in gas prices, here's your opportunity.

What's more, you'll also get the inside perspective of every energy expert at the summit – on subjects ranging from alternative energy to oil and natural gas, to lithium.

The information revealed at the Casey Research Energy Summit has been, up until now, only available to the small group of investors in attendance.

Now you, too, have the opportunity to arm yourself with the knowledge you need to prosper in the challenging years ahead. [Click here](#) for details.