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These Oil and Gas Technologies Lower Costs, Boost Upside: James West

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There's more to the oil and gas business than drilling holes and distributing what comes out of the ground. Technological advancements in other details of exploration and production are creating major opportunities. In this exclusive interview with *The Energy Report, EnerTech Advisor* publisher James West fills us in on new cost-cutting technologies and the relatively unknown companies behind them, as well as some major companies that are already benefiting from them.

The Energy Report: In your last interview with *The Energy Report*, "The Who, What and Where of Energy Investing," you touched on a range of energy subsectors. Why are you placing more emphasis on energy rather than mining investments?

James West: Generally, I think the risk-averse sentiment in the global equities market is going to continue, which is largely because of government debt. This means there's a real inclination toward disinvestment in highly speculative ventures, such as mining projects. Meanwhile, the world continues to consume about 88 million barrels of oil and about 20 million tons of coal every day. Even if economic weakness continues and energy demand decreases, these commodities will continue to be consumed in substantial quantities. That's why I prefer energy investments over mining at this point. Until there's some resolution to the global debt crisis, it's not possible to have a healthy, risk-tolerant speculative market in mining commodities.

There's no point in either buying or selling right now. I certainly don't think we've seen the bottom in the market and that now is the time to accumulate. Nor do I see any point in selling the beaten-up assets below where I paid for them. You may as well just sit on everything in the mining space. I do believe you will be able to buy choice assets quite a bit cheaper than where they are today.

TER: You've launched the *EnerTech Advisor* newsletter as well as a related fund, the EnerTech Fund. Are energy technologies the land of opportunity in this market?

JW: Yes. I'm now focusing more on energy technologies. Public companies with technologies that remove substantial cost components for energy production, transportation, use and consumption will perform better than standard exploration and production companies. Plus, now is the time for energy technologies to see support from subsidies, soft loans and government loans that will help them penetrate the commercial market space.

TER: What's going on in the energy services field as a result of the recent pullback in oil prices? Are there some interesting opportunities?

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JW: Yes there are. There is one company I'm heavily invested in and two others that look very promising. The first, NXT Energy Solutions (SFD:TSX.V; NSFDF:OTCBB), is involved in the earliest stage of exploration and production. The company has developed a prospecting tool focused on stress field detection—that's why its ticker is "SFD." NXT Energy Solutions has some patented technology. Its sensors measure the effects of stress in hydrocarbon reservoirs on gravity, and by interpreting that data it claims to be able to deliver an accuracy success rate of 70% in pinpointing trapped hydrocarbons underground. Several rather large companies have used it and have actually allowed NXT to use written testimony to support the soundness of the technology. At this point, it's credited with finding at least 160 million barrels of oil. There are some major contracts coming with some of the larger producers who are finally starting to wrap their heads around this technology. It sounds too good to be true, but it looks very promising.

TER: How much better is the success ratio or performance of this technology versus what's been used up to this point?

JW: First-pass geophysical exploration in the oil and gas space typically involves 2-D seismic data after preliminary geophysics have identified likely geology. On an average 10,000 square kilometer (sq km) concession, it would take four to five years and probably $30-40 million to generate thorough 2-D seismic reconnaissance. The degree of accuracy at that point is probably no more than 20%. NXT Energy Solutions' stress field detection can reduce the time to a period of months and cover the same area for probably less than $5 million with an accuracy of 70%, which is quite dramatic.

TER: Is this somewhat similar to airborne geophysics that are used for mineral deposits?

"Companies are finding hydrocarbon reserves based on stress field detection (SFD) technology and drilling wells successfully."

JW: It's also airborne but that's where the similarity ends. There is no technology that makes any claim toward registering the effects of stresses on gravity. It's really black-box rocket science. And that's why it's been having such a hard time penetrating the market. It's just so revolutionary that most oil and gas analysts looking at it say it's just too crazy. "We've never heard of it. Nobody's done it," is the standard response. But the fact is that companies like Ecopetrol S.A. (EC:NYSE; ECP:TSX) and Pacific Rubiales Energy Corp. (PRE:TSX; PREC:BVC) have used it and are returning to use it again and again. NXT Energy is in its fifth contract with Pacific Rubiales, which demonstrates that it seems to be working.

The pattern of announcements over the past five years indicates gradual industry acceptance of the technology. A lot of physicists have come forth and said, "Yes this is possible, but there's no way to tell unless you actually do it." The company is now running these contracts and delivering the data, and companies are finding hydrocarbon reserves based on this technology and drilling wells successfully. So it looks very promising.

TER: What's the second company you were going to talk about?

JW: Going up the life cycle of oil and gas, we started off with prospecting. The next thing involves drilling both natural gas and oil wells, where a lot of water is required and also produced in the course of drilling. A lot of this water is highly contaminated with hydrocarbons as well as other substances, not the least of which most recently in the news are fracking fluids. The actual fracking chemicals represent less than 1% of the fluid that is returned and has to be treated. So, fracking fluid itself is not the issue. It's more of an issue of chlorides. When chlorides are brought to the surface, you can't just let them flow out onto the ground because they raise the salinity levels in soils to the point where they're no longer arable.

"A new technology enables oil and gas drillers to reuse water rather than disposing of it."

The major problem in all of these drill locations throughout the U.S. that are now producing like crazy from shales is that they are generating a lot of water and they also need to use a lot of water in the fracking process. Many of these companies are trucking in water. If the nearest water source is more than 40 miles away, it becomes prohibitively expensive.

A company called Ridgeline Energy Services Inc. (RLE:TSX.V) has a water treatment technology that essentially takes water apart molecularly, removes the impurities and puts it back together in such a way that oil and gas drillers are now able to reuse it rather than to have to dispose of it and get fresh water. Ridgeline is at a similar stage as NXT Energy in that it's just gaining industry acceptance of the technology and becoming widespread. In fact, it is projecting that it will roughly double revenues each year for the next five years. I recently had a conversation with Ridgeline's CEO, Tony Ker, and he expects about $50 million in revenue in 2012. That is expected to double every year for at least five years, based on the growing acceptance of this technology.

TER: And your third company?

JW: The third one is tackling one of the biggest problems in the petroleum industry. According to The American Petroleum Institute, about 70% of the world's remaining oil and gas reserves are high in sulfur, and therefore highly corrosive. This raises the costs of producing and transporting the fluids dramatically because it increases the wear on pipes, joints, pumps and drill bits to the point where many fields are no longer economic to produce. A great example is the Canadian oil sands, which suffers from both high chemical corrosivity and high wearability due to the presence of sand in the bitumen. This company, called Abakan Inc. (ABKI:OTCQB), has a subsidiary called MesoCoat Inc., which produces nano-composite metallic coatings for interior pipe walls, among other things, and essentially extends the life of a pipe by anywhere up to 15 times.

"Nano-composite metallic coatings extend the life of a pipe up to 15 times."

A typical pipeline that once had a design life of 30 years, which was optimistic in the case of Prudhoe Bay in Alaska, could now be coated to last up to 180 -200 years and beyond. Again, this is one of those things that sound too good to be true. But the technology originates from Oak Ridge National Laboratory and is currently being deployed by Petrobras (PBR:NYSE; PETR3:BOVESPA), whose deep Brazilian offshore fields are extremely high in sulfur, very corrosive and high temperature. Abakan is also going to be announcing the establishment of a plant in Alberta at some point this year and has negotiations and discussions underway with essentially all of the major oil and gas producers. This is, again, a technology that is just on the cusp of widespread industry acceptance and penetration. That's why I own it.

TER: It would seem that there would be multibillion-dollar market potential, considering all the pipelines all over the world.

JW: MesoCoat actually has two technologies. One's called CermaClad, which is the pipe coating, and the other one's called PComP, which is a sprayable powder coating. MesoCoat also has a joint development agreement with the U.S. Army and U.S. Air Force to coat critical components in the aerospace defense industry because it gives them much higher wearability and longer life. The company is also in discussions with steel plate coaters. This material can be applied to ships, extending their design life from 30-50 years to over 200 years. It can be applied to critical infrastructure components like bridges to extend their lives from 30-50 to 100-200 years. So there are many more applications beyond the oil and gas space. MesoCoat is going after the oil and gas space first because it's the low-hanging fruit.

TER: How has this extension of life expectancy been proven?

JW: Abakan recently received an independent third party report from a company called Det Norske Veritas, in Norway, which is one of the premier technological risk assessment companies out there. They came up with the report basically giving the technology carte blanche approval of their representation. That six-fold extension was very conservative. It was trending more toward fifteen-fold in all the data that we looked at. I think it's going to be huge.

TER: Switching to the more traditional oil and gas plays, do you have any interesting names for people to consider at this point?

JW: Aroway Energy Inc. (ARW:TSX.V; ARWJF:OTCQX) is one of our portfolio holdings that I really think is a great opportunity. It's been somewhat brutalized by the market in general, which has treated great companies just as poorly as lesser companies. Aroway is primarily in condensates and oil. It just started another drill program after exiting 2011 with just over 1,200 bpd of production, which was quite substantially above what it had predicted.

The current drill program is for eight wells planned in two stages of four wells, focusing on oil. This is in a zone surrounded by mid-tiers. There's Crescent Point Energy Corp. (CPG:TSX) to the north, Birchcliff Energy Ltd. (BIR:TSX) to the west and Royal Dutch Shell Plc (RDS.A:NYSE; RDS.B:NYSE) to the south. These are large operations. Aroway Energy is one that I really like here.

TER: Where do you think the oil markets in general are headed from here?

JW: The commodity volatility we're seeing now is certainly to be expected in this kind of market. The debt crisis and economic weakness have prices fluctuating all over the place. If the G20 governments decide to inject several trillion dollars worth of money into the market, that will induce a bit of an economic rally, as well as a commodity spike. Some people are bullish on the idea of a stimulus-led rally. Other groups are convinced that there's nothing but long-term economic contraction ahead and, therefore, are disinvesting from commodities. That's why we have this volatility and you can't really be sure which is going to prevail.

If the G8 governments suddenly coordinated a global stimulus, which could cost trillions of dollars, then you'd see prices take off to the north. If, on the other hand, the debt situation continues to worsen, along with worsening recessions in southern Europe and the United States, then you're going to see stockpiles of energy, both gas and oil, increase and usage go down, which would obviously have a bearish effect on prices. Either outcome is possible.

TER: Do you have any opinion as to how the U.S. election might influence market performance?

JW: Personally, I don't see any significantly different outcome between a Republican or Democrat victory. Looking at the political landscape from the outside, the financial and systemic problems in the United States are so profound that Mickey Mouse could be elected president and he'd have no choice but to be immersed in those problems.

TER: Can you summarize for us what you think the best energy investment opportunities are at this point from your perspective and what our readers might consider doing under the circumstances?

JW: Well, as Mark Twain famously said, if you want to double your money take it out of your pocket, fold it in half and put it back. That really applies to the current market. However, if you have a long time horizon and you have the ability to place an investment very carefully, you can certainly pick up assets that are going to be worth a lot more down the road. If you're working according to some kind of schedule, then there's really not much point in investing in commodities, especially in explorers and producers. Right now, I want to invest in things that are going to dramatically reduce costs and have a high impact on the markets on which they're entering. That pretty much exists only in new energy technologies.

TER: You've given us some very interesting ideas to consider. Thanks for speaking with us today and we'll look forward to seeing how these ideas perform.

JW: My pleasure.

James West is publisher and editor of The Midas Letter and is an independent capital markets entrepreneur and investor. He has spent more than 20 years working as a corporate finance advisor, corporate development officer, investor relations officer and media relations and business development officer for companies involved in mining, oil and gas, alternative fuels, healthcare, Internet technology, transportation, manufacturing and housing construction.

DISCLOSURE:
1) Zig Lambo of *The Energy Report* conducted this interview. He personally and/or his family

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2) The following companies mentioned in the interview are sponsors of *The Energy Report:* Aroway Energy Inc. and Royal Dutch Shell Plc. Streetwise Reports does not accept stock in exchange for services. Interviews are edited for clarity.
3) James West: I personally and/or my family own shares of the following companies mentioned in this interview: Abakan Inc., Aroway Energy Inc., Birchcliff Energy Ltd., Crescent Point Energy Corp., Ecopetrol S.A., NXT Energy Solutions, Pacific Rubiales Energy Corp., Petrobras, Ridgeline Energy Services Inc. and Royal Dutch Shell Plc. I personally and/or my family am paid by the following companies mentioned in this interview: None. I was not paid by Streetwise Reports for participating in this interview.