



Interview: Rick Rule on Oil & Gas vs. Green Energy

By Ron Hera

July 5, 2010

©2010 Hera Research, LLC



The [Hera Research Newsletter](#) (HRN) is pleased to present the following, information-packed interview with Rick Rule, founder of [Global Resource Investments, Ltd.](#) Mr. Rule discusses conventional oil and gas, oil shale, shale gas, oil sands, heavy crude, peak oil and alternative energy, with particular emphasis on geothermal power.

Rick Rule has dedicated his entire life to all aspects of the natural resource industry. His contacts and knowledge of this market are unmatched. At Global Resource Investments, Rick leads a team featuring professionals trained in resource related disciplines, including geology and engineering, to evaluate investment opportunities.

Rick began his career in the securities business in 1974, and has been principally involved in natural resource security investments ever since. He is a leading American retail broker specializing in mining, energy, water utilities, forest products and agriculture. His research and brokerage capabilities are frequently recommended by distinguished financial newsletter writers such as Bob Bishop, Jim Blanchard, Doug Casey, Adrian Day, Richard Maybury, Paul van Eeden, Mark Skousen, Jack Pugsley, Ron Hera and others.

Hera Research Newsletter (HRN): Thank you for speaking with us today. How do you see the conventional oil and gas market developing in light of alternative energy?

Rick Rule: From an investor's point of view, conventional oil and gas will always be a pretty good business because it's a reasonably high margin business and it's also a very large business but it's a cyclical business, which means that it goes on sale reasonably often.

The most important theme that people need to understand with regard to conventional oil is that most conventional oil that is produced in the world and sold for export is not produced by companies like Shell or Exxon or Total, in other words it's not produced by major oil companies. It's produced by national oil companies, where the shareholders aren't public shareholders but rather sovereign governments, and that's important to understand. It's important for investors because most of the national oil companies have been, for some period of time, diverting substantial amounts of the cashflow from their domestic oil industries into other domestic spending programs that aren't oil related, thereby starving their domestic oil industry of sustaining capital. I think this has gone on for so long that several of these national oil companies have production decline curves that are irreversible for the next decade. The consequence of that is that several countries, particularly Mexico, Venezuela, Peru, Indonesia and perhaps Iran, will cease to be oil exporters within 5 years, even if they start spending now, which they aren't able to

do. The impact of that is that as much as 20% of world export crude will come off of export markets and that could lead to a truly precipitous increase in price. The only hope that oil import countries have is that sustaining capital investments have increased in Saudi Arabia, the United Arab Emirates and Kuwait. These three countries, with the help of a resurgent Iraq (if it does resurge), are the importing countries' only hope for moderated oil prices in the next 5 years. It's my belief that production declines as a consequence of a lack of reinvestment will be greater than the production adds and I suspect we will see sharply higher world oil prices in the next 5 years.

HRN: Do you think that increased domestic oil consumption by oil exporting countries is a significant factor?

Rick Rule: One of the things that oil exporting countries like Iran, Indonesia, Mexico and Venezuela do with the cashflow from oil exports is subsidize domestic energy production. At the same time that they increase supply, they constrain demand, which is not a sustainable set of circumstances over time. I think it will correct but it will not correct in time to prevent an oil price shock.

HRN: How does your outlook for conventional oil differ from natural gas?

Rick Rule: Natural gas is not yet a global market, although with increasing traffic in liquefied natural gas (LNG), it is becoming a global market. It is rather a series of regional markets. Some markets are in substantial oversupply, North America being one. North America benefits from very favorable geology and extraordinary infrastructure. The United States has transmission and underground storage infrastructure, as well as LNG receiving infrastructure, that are the envy of the world. The United States has access to ample supplies of gas from Canada's Western sedimentary basin and huge quantities of shale gas that has become newly economic as a consequence of several different types of extraction technology. Additionally, the United States has six LNG receiving facilities and the storage capacity to take cargoes at a moment's notice and store them. Paradoxically, although the United States is an oversupplied natural gas market, it is also a market that takes surplus LNG cargoes that cannot be sold elsewhere. For the next while, at least, the North American natural gas market is in a state of oversupply. This has caused North American dry gas prices to fall and the prices of gas producers to fall.

HRN: How will the BP catastrophe in the Gulf of Mexico affect the US oil and gas market?

Rick Rule: What interests me—the fly in the ointment—about the blowout in the Gulf of Mexico is that the Gulf of Mexico supplies 30% of US domestic oil and gas. Gas wells in the Gulf, in particular, have very high decline curves, meaning that gas wells drilled this year will likely be played out in 2012 or 2014. Without sustained drilling in the Gulf of Mexico, we can expect very rapid declines in overall US gas production, which may or may not lead to increasing domestic prices at a time when most commentators are calling for decreasing domestic prices.

HRN: Do you think shale gas will keep US prices low?

Rick Rule: I expect the supply of shale gas to be extremely volatile and the volatility will be a delta between the leveraged finding cost of gas producers and the forward strip. It would appear that the median North American shale—a combination of the Marcellus, Barnett, Eagle Fort and Woodford shale systems—involves finding costs and capital costs in the \$4 to \$5 per million British Thermal Unit (BTU) range. To the extent that a forward strip market exists, in the futures market, above \$5.50 per million BTU, meaning that producers can hedge by selling forward enough gas production to pay off a well, drilling will be fairly active. Producers can drill these

gas wells because they have no exploration risk for a while. If they can produce gas for \$4.00 to \$4.50 per million BTU and sell it for \$5.00 to \$5.50 per million BTU, because of the very high initial production of these wells, they have the ability to drill a well and pay the well off on a guaranteed basis by selling into the forward strip. When high drilling activity puts enough fresh production into the system to drive gas prices down and the forward strip goes below \$4.00 or \$4.50 per million BTU we'll see a relatively rapid stacking of rigs and, because of the very, very high depletion of gas shale wells, 18 to 24 months out we'll see gas supplies tight enough to drive the spot and the strip market higher, and the situation will repeat itself.

HRN: What's the best way for investors to capitalize on cyclicity in the North American gas market?

Rick Rule: The interesting thing about the North American natural gas market is that it is going to be extremely volatile. Speculators are going to have to buy in terms of low gas prices, when rigs are stacked and production is declining, and sell during periods of high gas prices when producer cash flows are soaring. It's going to be counterintuitive but very, very rewarding. Normally, these cycles take place in 10 years or 12 years but we're going to see these cycles taking place in 2 years, which is a situation we've not seen before.

HRN: Can you comment on the global market for gas?

Rick Rule: The global gas market is very different. It's a series of smaller markets, in actuality. In far eastern markets, LNG is increasingly seen as a cheap substitute for oil in many of oil's functions, such as power generation and petrochemical feedstocks (used in the manufacture of chemicals, synthetic rubber and plastics) in particular. We're seeing the development of a vast LNG infrastructure to move gas from places where it's in abundance, like the Australian shelf and parts of Indonesia, to places that appear to be perpetually hydrocarbon starved, like China, Taiwan, Korea and Japan. Europe, similarly, has fairly high gas prices and has developed what the Europeans believe to be a dangerous reliance on Russian supplies. There are moves afoot to lessen European dependence on Russian gas, like moving Iranian or Azerbaijani gas through Turkey into Europe, and moving North African gas into Europe. Over time, I suspect, a way will be found to provide energy security for Europe where the Russians have a big share of the market but will not dominate the market.

HRN: Do you expect natural gas to be more widely used as a motor fuel in the future?

Rick Rule: What's interesting is that natural gas prices are substantially cheaper than oil prices as a consequence of oil's dominance as a motor fuel. I think we are finally in an era where natural gas will achieve prominence as a motor fuel. I suspect that the country that leads that charge will be the United States, as a consequence of its reliance on export crude and of our unique national highway system. It's always been a chicken or egg problem. If we convert cars before having the ability to distribute LNG we'll have stranded vehicles, but if we convert gas stations before converting cars we have stranded capital. The answer to that in the near term is to convert 2% of the gasoline stations along long haul trucking routes and convert the trucking fleet before converting cars. This would save a tremendous amount of cash because LNG is significantly cheaper as a motor fuel.

HRN: Isn't that part of the Pickens Plan?

Rick Rule: Yes, it is, but the Pickens Plan, somewhat disingenuously, would rely on federal subsidies. I don't think we need any federal subsidies. The savings that would be generated by

converting the long haul trucking fleet to LNG would be such that federal subsidies wouldn't be needed. It's also interesting that there are rapidly developing technologies that would allow service stations to compress the gas themselves from utility supply rather than having to distribute LNG in the same fashion that gasoline or diesel are distributed. I also think the US is headed, in the near term, for some type of carbon tax—whether or not it's a good idea is a different question—and I think the carbon tax would make gasoline and diesel even less competitive relative to natural gas. In the next 5 years we'll see substantial strides towards the conversion of the long haul trucking fleet from diesel to LNG. There have been discussions that Wal-Mart or Costco, partially for public relations reasons, might lead the charge by making conversions across the country by converting their own, high-volume operations. Having that critical mass of availability of LNG will encourage the conversion of the nation's automobile fleet.

HRN: I read that there has been a build-out of capacity to refine heavy sour crude oil.

Rick Rule: [Heavy oil](#) is doing well and I think it will continue to do well for a couple of paradoxical reasons. There used to be a very large spread between [heavy sour crude](#) prices and [sweet light crude](#) because heavy oil required upgrading. The spread was so large that upgrading heavy oil was extremely profitable and, as a consequence, enormous capital investments were made over the past 10 years or so both in Canada and in the United States in heavy oil upgrading. What's happened is that our capacity to upgrade heavy sour crude has begun to outstrip supplies, particularly from Mexico and Venezuela. Because of the oversupply of upgrading capacity and the relative undersupply of heavy crude oil, the spreads between heavy crude and light crude have declined to the point where producing heavy crude has become a very profitable activity.

HRN: What is your view on oil sands?

Rick Rule: North American speculators who are under-weighted in oil should probably take a position in the larger oil sands companies, just as they would buy car insurance or life insurance. In addition to the supply disruptions that I see from the lack of investment in conventional export crude, geopolitical instability in the Persian Gulf region, particularly where Iran is concerned, could disrupt supply. If the Iranians had cause to shut down the Strait of Hormuz for any period of time, we would see a tremendous escalation in oil prices and we would see the geopolitical benefit of the [Athabasca oil sands](#), which is an enormous, producing bitumen region of Northern Alberta, Canada. I see oil sands as an absolute cornerstone in a North American energy investor's portfolio because of its extraordinary size, the amount of capital that has already been expended and because of its particular importance to US consumers.

HRN: What's the status of technology to recover oil from oil sands?

Rick Rule: [Steam assisted gravity drainage](#) (SAGD) is a technology that's useful where the oil is heavy and doesn't flow very well but where there is porosity and permeability. What we do is drill two horizontal legs into the reservoir. One leg pumps steam into the reservoir while the other leg pumps out the fluid produced as a consequence of the injection of energy and steam.

HRN: With the energy inputs, is it economic or energy positive to produce oil from oil sands?

Rick Rule: In an ideal world, one would build about 2 GW of nuclear capacity at the Athabasca oil sands in Northern Alberta, which is the largest oil sands basin in the world, because the byproduct of a nuclear power plant is steam. The steam from 2 GW of nuclear capacity would be worth about a quarter of a billion dollars annually. In other words, you would sell your waste product for a quarter of a billion dollars and the cash flow from the waste (steam) would amortize

most of the construction cost of the power plant and the power that would be generated would back out all of the natural gas fired power used in the province of Alberta, freeing all of that gas for export or other uses (other than generating steam for the oil sands). Unfortunately, that set of circumstances isn't politically appropriate. Right now, what happens in the oil sands business is that, because oil commands a higher premium as a consequence of its easy conversion into a motor fuel compared with natural gas, the process involves an arbitrage between high oil prices and low gas prices. Enormous amounts of energy are consumed to produce energy.

HRN: Is there an environmental impact?

Rick Rule: A challenge facing the oil sands industry is that it alters, negatively, large quantities of water. Water supply and water treatment issues will come to the fore in the oil sands business. I'm not a knee-jerk environmentalist but I am a real environmentalist. The industry has to address the fact that it has improperly treated water for a long period of time and it consumes much more water at lower input prices than it ought to. The industry is going to have to deal with recycling processed water back into process and with cleaning up process water before putting it back into the environment. In oil mining operations, the industry is also going to have to deal with the water that builds up in the pit as oil that hasn't been mined desorbs from the rocks in the pit and is ultimately released into the environment. There are costs associated with oil sands that aren't being factored into the cost of the oil that's being sold and society is going to demand solutions to those problems and that will increase the production cost.

HRN: That's fascinating, can you comment on oil shale as well?

Rick Rule: The technologies that have been brought to bear on gas rich shales, particularly those that have a lot of liquids in them, can probably be brought to bear on some of the oil rich shales, in particular, the thermally mature oil shales. We know that some of these basins are like organic kitchens, cooking their organic content into oil, but they have neither the porosity nor the permeability to be produced economically. What we've done in the gas rich shales, because they have poor reservoir properties, is that we've effectively manufactured our own reservoirs. We drill into the gas shales horizontally rather than vertically, exposing more of the reservoir to our extractive mechanism, that is, our well. Because the shale is very tight we pump in water or sand or ceramic, in a procedure called fracturing, keeping the reservoir open. In other words we are manufacturing a reservoir in rock that has oil and gas in place but that didn't have a reservoir previously. That technology will probably work in certain applications for oil shales. It may be that a combination of technologies, fracturing and SAGD, can be used in oil shales. The tremendous advance of technology we've enjoyed in the last 30 years and the tens of billions of barrels of oil that are known to exist, suggests that we may see the same type of technological breakthrough in the oil shales that we have in the gas shales. In the oil sands, the billions of dollars invested are beginning to pay off in spades, both in terms of cash flows and in terms of the security of the supply.

HRN: What do you think about the [Peak Oil theory](#)?

Rick Rule: Peak oil is more an economic and political phenomenon than it is a geological phenomenon. I think we're past \$40 peak oil but I don't think we're past \$200 peak oil. There are technologies, as an example, miscible CO₂ flooding to recover oil from allegedly depleted oil fields. There are new basins, albeit remote, frontier basins. There are new technologies that allow dry gas or LNG to be substituted for liquid oil. It's an economic function because these technologies and substitutions require higher energy prices. At \$200 oil, we've got lots of oil.

HRN: Where do you see oil prices in the next few years?

Rick Rule: I think oil prices will move up dramatically in the next 5 years. The transition from a hydrocarbon economy to some other type of economy will require massive investment in new technologies and I don't think we will adapt quickly enough to avoid an escalation of oil and gas prices. Hydrocarbons, oil and gas, are extremely efficient energy sources. They are extremely dense and there is an incredible installed capacity to utilize them in various forms. They seem ideally suited for use as motor fuels. Whatever replaces them will be long in coming and involve enormous expense. I suspect that the next 10 or 15 years will involve a transition away from the widespread use of oil and gas in applications other than motor fuel. As a consequence, increasing per capita consumption of hydrocarbons around the world with an increasing number of capita, and without a viable alternative in the near term means that higher oil and gas prices are inevitable.

HRN: How do you see alternative energy playing out versus oil and gas?

Rick Rule: I differentiate economic alternative energy and uneconomic alternative energy. The alternative energy investments that intrigue me are geothermal and hydroelectric which are, by and large, industries that could exist and thrive without subsidy but, because they are green energy, receive subsidies at any rate. Juxtapose those with wind and solar, which do not, given their current stage of technology and status of deployment, generate an economic return without subsidy. I am not, for the most part, an investor in wind or solar, although I have made a couple of small wind investments as a consequence of extraordinary feed-in tariffs. Solar has, in my opinion, an insurmountable problem, which is night. It's highly interruptible power. It's not baseload and it's devilishly difficult for utilities to incorporate into their demand curves. Wind is similarly difficult. People don't like to live in windy areas and the energy has to be transported to where people want to consume it, and the wind doesn't necessarily blow when people want to consume the power that's being generated by it. Geothermal power is baseload. It's very highly deliverable, about 95% efficient, and it is in certain areas of the world, such as the Western United States, highly economic. Hydro, although it relies on precipitation and drop, has been utilized for 100 or 150 years and is highly competitive even though it doesn't have the same baseload characteristics of geothermal.

HRN: Would you say that geothermal power is the most promising area for investors?

Rick Rule: What all forms of alternative energy have, and what no other forms of energy have, is social and political acceptance. Most elements of society are solidly in favor of increasing utilization of non carbon generating power. I was involved, as an investor, in the drilling of a new geothermal well in the Geysers of Northern California, which is, by the way, the largest installed geothermal facility in the world. What struck me about it was that we were drilling this well using typical oil and gas equipment. It was a fairly large drilling rig and a fairly noisy, messy operation and it occurred to me that if we had been drilling an oil well on the Napa-Sonoma county line there would have been popular outrage and political opposition—pickets, protests and that kind of thing—but, because we were drilling a geothermal well, we received orders of commendation from both the Napa and Sonoma county councils. What's important about that is that it's power that is (a) needed, and (b) can be built due to a level of political and social support that other forms of energy do not enjoy.

HRN: I understand that there are US Department of Energy grants and other government programs designed to encourage alternative energy.

Rick Rule: The current US administration has done two extraordinary things. They have offered grants to the geothermal industry of up to 30% of project expenses. We calculated that the government would give companies as much as 27% of the capital budget with no equity interest. At the same time, they will guarantee up to 80% of allowable project expenditures. Now that's interesting because if you add up 27% and 80% it produces a rather exquisite fraction. What is more interesting is that, in the Western United States, the government has instituted feed-in tariffs that require utilities to pay premium prices for alternative energy versus other sources of energy. As a result, unleveraged internal rates of return on select geothermal projects can exceed 20%. The industry's cost of capital, as a function of subsidies, could be around the 5% level. The idea of a 15% financial margin in an operation that is effectively offering a utility risk is extremely attractive. I don't know how long the federal subsidies will last. They're slated to last about 3 ½ years and I wonder, given budget constraints, if the popularity of geothermal projects will allow them to continue with this level of subsidy in the face of competing needs for money, but it certainly makes for a very, very attractive investment opportunity.

HRN: I've noticed that the market does not seem to be rewarding geothermal junior companies.

Rick Rule: It's my belief that, 2 or 3 years from now, alternative energy investments will enjoy the same kind of spike in popularity that we saw in uranium speculation 5 years ago. I think there's going to be a true mania surrounding alternative energy investments and I think a lot of money will be lost because newbies to alternative energy investments won't understand the characteristics of the various industries. There's quite a disconnect between the market and geothermal energy, because most of the speculators in geothermal have come to it from the mining side rather than the power side. These people are exploration and excitement oriented rather than process oriented. I was speaking at a conference in Vancouver a few weeks ago about geothermal power and the fact that news wasn't reported in grams per tonne confused people. They were trying to apply mineral exploration parameters to a very different business.

HRN: When do you think the value of these growing companies will be recognized?

Rick Rule: What I learned in the uranium business in 1998, 1999 and 2000, when I was pounding the podium at conferences explaining why these stocks would do very well, was that thinking people would understand the story but had no relevance to them because it hadn't been demonstrated by one stock that had worked. In 2003, [Paladin Energy](#) moved from about \$0.05 to about \$2.00 and that move—a 40 bagger—really kicked off the uranium frenzy. What happened was that a story that was understandable, relevant and true became validated by a single company. The first time that a geothermal company gets taken over by a major utility with a nice premium, the geothermal story will suddenly be validated and important. I think that will happen, maybe, as early as this calendar year.

HRN: What companies are in the running?

Rick Rule: There are 5, soon to be 4, entrants on the junior side in North American geothermal stocks: [Ram Power Corp](#), which is a leader; and [Magma Energy](#), which is also a leader based on the extraordinary career of its founder and chief executive, Ross Beaty; and there are three smaller junior geothermal companies, [Sierra Geothermal Power](#), [US Geothermal](#) and [Nevada Geothermal Power](#). The smaller companies are really a paradox because they are all selling at substantial discounts to the value of their assets but they are arguably too small to exist as public companies. It's difficult for some of the smaller companies to attract institutional capital because of the relative lack of experience in geothermal of their management teams and the bulk of their assets are so small that attracting capital dilutes shareholders at the same time that they're selling

at large discounts, so the risk adjusted net present value of their assets is unattractive. Sierra Geothermal, I think, has made the right decision to amalgamate with Ram Power because Ram's management team has the skill set to attract institutional capital. I suspect that both US Geothermal and Nevada Geothermal will be taken over either by Magma or Ram or by one of the big US coal-fired electric utilities, such as [AES](#), [Southern Company](#) or [Duke Energy](#). The utilities have been circling the geothermal space long enough that they are going to get into the act. I think the theme was set when Canadian Hydro was taken over by [TransAlta](#). The theme being that large coal-fired utilities take over well-run alternative energy entities with large development pipelines because they want to control the carbon offsets from alternative energy against their coal operations without having to buy those carbon offsets in the market, and also because they see the ability to grow in alternative energy as a consequence of the political will and support of alternative energy, which is a set of circumstances that the coal industry no longer enjoys. I think, ultimately, we will see all of the North American geothermal entities taken over either by international power generators or by American coal-fired generators. I think it's one of the easiest themes to play for the next 5 years because, like uranium, it's an absolute certainty.

HRN: Thank you for being so generous with your time.

Rick Rule: It was my pleasure.

After Words



If there were only one person in the world that an energy investor could ask about conventional oil and gas, oil shale and shale gas, oil sands, heavy crude, peak oil and alternative energies, including solar, wind, hydroelectric and geothermal power, that person would have to be Rick Rule. His encyclopedic knowledge and many insights into both industries and specific companies are invaluable.

Editor's Note: The author is personally a client of Global Resource Investments, Ltd.

###

Hera Research, LLC, provides deeply researched analysis to help investors profit from changing economic and market conditions. Hera Research focuses on relationships between macroeconomics, government, banking, and financial markets in order to identify and analyze investment opportunities with extraordinary upside potential. Hera Research is currently researching mining and metals including precious metals, oil and energy including green energy, agriculture, and other natural resources. The [Hera Research Newsletter](#) covers key economic data, trends and analysis including reviews of companies with extraordinary value and upside potential.

###

Articles by Ron Hera, the Hera Research web site and the Hera Research Newsletter ("Hera Research publications") are published by Hera Research, LLC. Information contained in Hera Research publications is obtained from sources believed to be reliable, but its accuracy cannot be guaranteed. The information contained in Hera Research publications is not intended to constitute individual investment advice and is not designed to meet individual financial situations. The opinions expressed in Hera Research publications are those of the publisher and are subject to change without notice. The information in such publications may become outdated and Hera Research, LLC has no obligation to update any such information.

Ron Hera, Hera Research, LLC, and other entities in which Ron Hera has an interest, along with employees, officers, family, and associates may from time to time have positions in the securities or commodities covered in these publications or web site. The policies of Hera Research, LLC attempt to avoid potential conflicts of interest and to resolve conflicts of interest should any arise in a timely fashion.

Unless otherwise specified, Hera Research publications including the Hera Research web site and its content and images, as well as all copyright, trademark and other rights therein, are owned by Hera Research, LLC. No portion of Hera Research publications or web site may be extracted or reproduced without permission of Hera Research, LLC. Nothing contained herein shall be construed as conferring any license or right under any copyright, trademark or other right of Hera Research, LLC. Unauthorized use, reproduction or rebroadcast of any content of Hera Research publications or web site, including communicating investment recommendations in such publication or web site to non-subscribers in any manner, is prohibited and shall be considered an infringement and/or misappropriation of the proprietary rights of Hera Research, LLC.

Hera Research, LLC reserves the right to cancel any subscription at any time, and if it does so it will promptly refund to the subscriber the amount of the subscription payment previously received relating to the remaining subscription period. Cancellation of a subscription may result from any unauthorized use or reproduction or rebroadcast of Hera Research publications or website, any infringement or misappropriation of Hera Research, LLC's proprietary rights, or any other reason determined in the sole discretion of Hera Research, LLC. ©2009 Hera Research, LLC.