Privcap/Report

Produced in Partnership With KPMG

Q1 2018

Energy Game Changers

A recap of Privcap's fourth annual energy conference

Privcap/ Report

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In This Report

Hard Times Make Good Vintages

As of Q1 2018, the world is starting to look a lot easier and more fun for oil and gas investors. With the price of oil surging into the $60-per-barrel range, investors are heaving a sigh or relief that, after four years of nail-biting and pearl clutching, the business is moving again toward strong profitability.

In fact, the outlook for private equity in energy should be even more bullish. The investors deploying capital into today's energy market are as battle-hardened as they've been in a generation; their deal-vetting and underwriting standards have never been higher. The managers backed by private equity have been forced to realize efficiencies that $100 oil did not inspire. Amazing new techniques and technologies have been applied with the zeal of the newly converted. To have these disciplines and efficiencies put to work in an environment of rising commodity prices having tailwinds push a vastly improved ship.

Those who should be especially bullish are investors who managed to put capital to work in a market filled with pain and embarrassment, as one might characterized the period from late-2014 until relatively recent months. As is well documented, private equity vintages born in recessions tend to be the best vintages. Likewise energy-focused private equity vintages born during times of turbulence and business failure. Capital flees the market, assets with flawed underwriting become easily apparent, sellers are more flexible. Deals struck in that type of an environment and exited in happier times tend to be very good deals.

I think you'll find from the summaries of thought leadership shared at Privcap's 2017 Game Change: Energy event that the private equity investors who stayed active throughout the turmoil are certainly smart, and if trends keep moving in the right direction, they're lucky, too.

Enjoy the report,

David Snow
CEO & Co-Founder, Privcap Media
@SnowsNotes

Panel

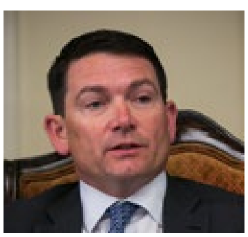
The Efficiency Revolution:

New Technologies Bring Efficiency and Cost Reductions to a Booming Energy Sector

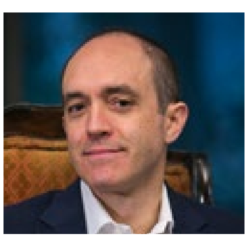
Leading experts on energy technology and investment prove that a commitment to innovation offers big returns

Matthew Strock
Partner,
Mergers & Acquisitions
and Private Equity,
Vinson & Elkins LLP

Greg Beard
Global Head of Natural Resources,
Senior Partner,
Apollo Global Management, LLC



Joseph Robert Edwards
Partner,
White Deer Energy



Chris Ortega
Partner,
TPG Capital

David Rockecharlie
Member & Head of Energy
Real Assets,
KKR

Matthew Strock, Vinson & Elkins LLP: New technologies have brought efficiencies and cost reductions to the energy industry. How will your firm leverage these efficiencies?

David Rockecharlie, KKR: The investment in technology is benefiting all. The shale business in particular has seen the most significant technological development in terms of energy commercialization over the last decade, and it's only expected to grow as the industry matures. There are also major changes in how fracking technology is applied. In the last two to three years, there's been cost savings and increased production. We will continue to see technology advance and a need to meet demand. As the technology evolves, this leads to a dynamic marketplace to invest more capital in.

What about the importance of oilfield services? How can you leverage these efficiency gains in your investment thesis?

Joseph Robert Edwards, White Deer Energy: On the services side, we have a decade-long bias for completions-oriented investing, and that's really where oil service companies have made money in the past five to ten years. But this is changing due to pad drilling, a process that decreases the time you can get wells online. That means that the drilling services offered to the oil and gas clients are just less profitable. You can do more with less, and that has been a challenge to oilfield service drilling profitability. However, because new technologies are helping oil companies get more out of the rock faster and more profitably, the service industry is able to find profitability by adapting their pricing model.

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What kind of technology changes are you looking for in potential investments that would achieve the returns you want?

Chris Ortega, TPG Capital: We're just scratching the surface in terms of technology changes. Historically, we've always invested in basins, but beyond drilling advances, we're also using data analytics. Today many independent E&P companies are hiring data scientists and computer engineers to write algorithms to optimize everything from how you bring supplies to a well site, where you land your well, to figuring out predictive maintenance once a well is up and running. This creates an opportunity to bring those roles in-house, apply the data uniformly across all of our investments, and ultimately better to inform our decisions.

Are new efficiencies driving down profits, and how is this explained to your LPs?

Rockecharlie: One of the things that's important about being a long-term business owner and asset builder, as opposed to being a quick turnaround, is that you get to apply all that learning across your entire portfolio over years. The most obvious example recently is BP sanctioning Mad Dog Two. It was a $30 billion, plus or minus, project pre-downturn. They're now going to deliver it for around $10 billion. That's not because the service companies are going to lose all their money, it's because those engineers got together and said, "How do we make this more efficient?"

The U.S. has been the clear leader in technology and efficiency applications. How do you see this being embraced internationally, and does this shape your thoughts on where to invest globally?

Greg Beard, Apollo Global Management, LLC: The business opportunity in the U.S. is about a billion dollars a week to buy assets, so that's the best place to focus. At the same time, we are a global firm, so if a crisis happens abroad and there's an obvious opportunity, we'll pay attention. But it's easier to be here.

Are you worried that an increase in commodity prices will actually decrease the impetus to continually improve technology?

Ortega: The short answer is no. Could there be cost inflation coming back into the system on the service side? There's been this huge shift in investor sentiment. We're no longer focused just on production growth. There's much more of a push in terms of what is your ROIC; you're actually starting to see C-suite compensation metrics coming in through ISS that are ROIC-focused as well. We're seeing a realignment in terms of incentive and in ensuring that each well is at maximum productivity, after candidly a decade of the unconventional shale revolution, because so much capital was poured into the space, where we got great growth but frankly very tepid returns.

"The business opportunity in the U.S. is about a billion dollars a week to buy assets, so that's the best place to focus."

– **Greg Beard**, Apollo Global Management, LLC

The shale play requires large quantities of water supply, recycling, and disposal. How do you see this challenge being met, and in which areas are there the largest needs?

Rockecharlie: It's insanity that our industry takes perfectly good freshwater, sends it down hole with sand and chemicals, brings it back up, and then sticks it back in the earth. We should be able to do something with it to recycle it to a level profitably enough to enable oil companies to reuse that. The gold standard would be to recycle it to a level to actually be able to drink it, and we're a long way from that. We can do it in labs. We can't do it to an industrial scale.

So, there is a lot of technology investment opportunity in that space. A lot of money's been wasted trying to chase it, but I think that's where we have to get to as a society. It's the only responsible thing to do. ■

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Renewables in the Institutional Portfolio




Elaine Walsh
Partner,
Baker Botts LLP

Daniel Carter
Investment Director,
Saudi Aramco Energy Ventures

Raj Atluru
Managing Director,
Activate Capital

Joncarlo Mark
Founder,
Upwelling Capital Group

An expert discussion led by Elaine Walsh, partner at Baker Botts LLP, on institutional investment in clean and renewable energy

Elaine Walsh, Baker Botts LLP: We've heard about challenges in the renewable industry; Solyndra and SunEdison are a few examples. Can you comment on some of the hiccups?

JonCarlo Mark, Upwelling Capital Group: In spite of challenges from Solyndra, Miasole, and SunEdison, renewable energy investment is here to stay. From an institutional standpoint, investment in renewable energy is in its infancy. From the pension world, most of the capital was deployed through clean tech funds, as opposed to sort of a more holistic view on clean energy as it is today.

With lessons learned, we have found success in companies such as Pattern Energy, that today is the largest wind and solar developers in the world. Riverstone was lead investor in this profitable company, and CalPERS, in fact, made up for much of the losses they incurred in their clean tech portfolio through investment in Pattern Energy.

What could cause an energy investment to go bad?

Raj Atluru, Activate Capital: A number of large prominent firms made the thesis that because they're good at building businesses, they are therefore capable to invest in energy. That's just not the case. A huge amount of capital was wasted by people who had no concept or any idea of energy dynamics.

Daniel Carter, Saudi Aramco Energy Ventures: We're at a spot where renewables are absolutely cost-competitive with other forms of new energy generation. It is becoming more viable to install solar versus other forms of power. Not to say other forms of power don't make sense, but because of the drop of cost in the production of solar panels, this unfortunately caused the demise of some companies early on.

How is the Suniva Section 201 trade case proceeding at the International Trade Commission going to affect the market?

Atluru: The cost of a panel right now is 26 cents a watt. It was $5 a watt a decade ago, and so the price has dropped precipitously. The Suniva case will increase that—if, in fact, it goes through and gets approval—to somewhere around 65 to 70 cents a watt. Overall, the costs decrease in producing solar will impact the industry. Will it derail it? Absolutely not.

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How have you seen the difference in the type of renewable investors?

Mark: The advent of the impact investment world has driven more capital into renewables. The Alaska Permanent Fund Corporation is one example of a U.S. institution that is active in this space. Today they're investing in renewables through a program called the Private Income Program.

While they don't have a private equity benchmark, they have a 60 percent global infrastructure benchmark and a 40 percent high-yield benchmark. It's a three-and-a-half-billion portfolio. They've got a billion dollars that they're doing in all kinds of different credit—private credit, distressed credit; $500 million will be invested in renewable energy.

How are areas rich in fossil fuels handling renewables?

Carter: Well, Saudi Arabia, for one, is clearly rich with fossil fuels but also full of solar potential. While they are able to produce energy for a world market and we're consuming a couple million barrels a day for power generation, that's not a very profitable trade over time. The idea is to offset that with additional resources beyond oil that include gas, solar, and other renewables.

Can you comment on any international opportunities? How does that relate to the U.S. and some of the limited growth we have here?

Raj: India, as one example, doesn't have great energy resources. What's interesting is that the federal and state government have instituted good policies that have enabled India to become the lowest-cost producer of solar on the globe. They effectively got all the permitting, the engineering, the construction cost down. It's a no-brainer for an emerging market like India, and the same holds true for Africa. You're not going to build a centralized generating capacity to deal with all of Africa. You're going to do micro-grids with storage and solar and some other biotrue technologies as well.

So what about investment in renewables in Africa?

Mark: The analogy I would use to make the case for international renewable investment, specifically in a place like Africa, is the cellular industry and what happened with the growth of mobile phones. They didn't have the infrastructure; they had the hardwire infrastructure. The same thing is obvious in places like Africa and India, where you have vast populations spread out in different areas. Why pipe in the infrastructure from a centralized power facility when you can do something on a distributive basis? The sun is right there, so it makes sense. That's why you're seeing massive growth of new projects in those regions funded by development finance institutions and the like.

What is the role of the public sector and the government in financing clean technology and renewables?

Raj: I think it's twofold. One is government policy. We've got renewable choices for utilities, for consumers, so that policy worked. It didn't pick winners. Where the government got in trouble was picking winners—choosing technologies and choosing companies that they wanted to back. And so that's where Solyndra received its negative publicity and set the industry back a bit. But there's some important things that the government does. They fund early-stage research at the university level, at the labs, which help propel technologies forward.

Private capital doesn't have the time window to invest in technologies that take 15 to 20 years. That's an important role of public-sector involvement. ■

Former Sec. of State James Baker:

On Foreign Policy, the Cold War and the Current State of American Politics

KPMG's Regina Mayor interviews former secretary of state James Baker. One of the greatest statesmen the U.S. has ever produced, Secretary Baker is widely considered a founding father of modern American foreign policy.

Regina Mayor, KPMG: Let's start from the beginning. How did you get involved in politics?

James Baker, U.S. Department of State: When I was 40 years old, a series of events occurred in my life, some happy and some tragic, beginning with the death of my wife at only 38 from breast cancer, leaving me with four small sons. To take my mind off of my grief, a close friend asked me to help him run for Senate.

We lost that race, but shortly thereafter I found myself in Washington, D.C., as the deputy secretary of commerce in the Ford administration, where I was then asked by the president to chair his national campaign against Jimmy Carter. We know how that turned out, but that whetted my appetite.

So the political bug bit you, what happened next?

Baker: I decided to run for attorney general of Texas. Now, in those days, Texas was a solidly Democratic state. It was a hard race, and I lost, but it was a good thing, because I'd have never gone to Washington to work for both President Reagan and Bush Sr.

Let's talk more about your time working with the Bush family. Can you describe your role in the 2000 election?

Baker: Then-Governor George W. Bush asked me to serve as chief legal advisor and oversee the Florida recount in the 2000 presidential race. That was a unique experience that may never occur again in American politics, for a presidential election to win by a margin as narrow as 537 votes in one state. So if you ever tell yourself, "I'm not going to bother going to vote today, because my vote doesn't count," that's simply not true.

Moving to your tenure as secretary of state, you are largely credited with ending the Cold War. What in the world are you most worried about today?

Baker: Proliferation of weapons of mass destruction, particularly in North Korea. My view is that China doesn't like what's happening on the Korean Peninsula. Kim Jong-un is a problem for China, because he's reckless and unpredictable. I think we should go to the Chinese, go to Xi Jinping, and say, "Look, you don't like what's going on in the Korean Peninsula, and we don't like what's going on with the Korean Peninsula. Why don't we get together and agree to do something about it?" The U.S. should support any government North Korea puts in power, provided it's friendly to China and renounces the acquisition or maintenance of nuclear weapons. We can then establish diplomatic relations, trade, and sign a peace treaty with that government. We would have to agree not to put nuclear weapons on the Korean Peninsula and then ensure that a new government renounces the maintenance or acquisition of nuclear weapons.

What are your thoughts about trade in the current political environment?

Baker: First, American policymakers have to consider how they're going to relate to the rise of China as not only an economic superpower but also a geopolitical superpower. Trade and investment has been one

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of the things that strengthen America's economy. In any free trade agreements, there are going to be losers and winners, but overall it creates economic growth, and that creates jobs. I regret the fact that the consensus for free trade—which used to be strongest among the left wing of the Democratic Party and the right wing of the Republican Party—has evaporated. Now countries are cutting their own deals without us. We need to do something about that.

Do you think the eurozone will survive?

Baker: The eurozone is a problem, because not all countries within Europe contribute their fair share, and those that don't require more help. At some point, you're going to have a reordering of the eurozone and you may end up having a north Europe that's much stronger economically and financially and mostly comprised of the northern countries, i.e., Scandinavia, Holland, Germany, France, and so forth. These countries will fare better than the southern countries, and that's going to create problems. I just don't see how you can ask the German and French and other taxpayers to keep bailing out people who don't pay their taxes.

Let's switch gears and talk about energy. America has an abundance of natural resources. What economic and geopolitical impact will increased U.S. energy independence have on the rest of the world?

Baker: Who would've thought the U.S. would become one of the biggest producers of oil and gas in the world, no longer dependent upon Persian Gulf reserves for our energy needs? This newfound independence is a big geostrategic plus for the country. Exporting LNG can also be an important strategic game changer in terms of managing Russia, who today uses gas as a weapon with Western Europe.

Climate change and sustainability is an issue when drilling and exploring new energy sources. What is your approach to managing carbon?

James Baker
61st U.S. Secretary of State, U.S. Department of State

Regina Mayor
Global Sector Head & U.S. National Sector Leader of Energy and Natural Resources, KPMG

Baker: A carbon tax is the most efficient way to cut down on the production of carbon. My suggestion is to rebate the tax to the American people, so it doesn't grow the government. That way, it really isn't a tax if it doesn't go to the government.

Then I'd put on a border adjustment requirement, so that other countries that don't have similar carbon regimes don't get a competitive advantage and put us at a disadvantage.

Anytime you say the word "tax," it can shut down discussions. Do you think this will ever change?

Baker: Just the term "carbon tax" is supercharged. It's going to be a long time before we'll see something like that pass. But today more companies are agreeing to regulate themselves, including major energy producers like Exxon, BP, Shell, retailers like Walmart, big corporations, and more.

Speaking of policy, what do you think are the greatest domestic policy challenges?

Baker: There are a number of challenges. The current tax reform proposal is a ticking fiscal debt bomb. We have a debt to GDP in this country of plus 85 percent and moving to 100. That's unsustainable. While this tax reform will be good for the economy, it will increase debt by at least a trillion dollars. We are a country divided by red and blue states, and "compromise" has become a dirty word. It shouldn't be. That's how you get work done. It's a real shame, because we used to be politically functional. How long has it been since you've seen a bipartisan important piece of legislation pass in Washington? That kind of dysfunction is not good for our democracy.

Last question: What was your most memorable moment as secretary of state?

Baker: I was really fortunate to be secretary of state when I was, at a time of fundamental change in the world. The Wall came down. Communism collapsed. The Soviet Union imploded. We had the Madrid peace conference, first time ever that Israel and all of her Arab neighbors got together to talk peace. We kicked Iraq out of Kuwait.

One of the most dramatic things that I remember is speaking to the pilots and airmen of the first wave that was going to open the first Gulf War by bombing Baghdad. I remember thinking to myself, wondering how many of those kids would not come back. We were lucky—every one of them came back. ■

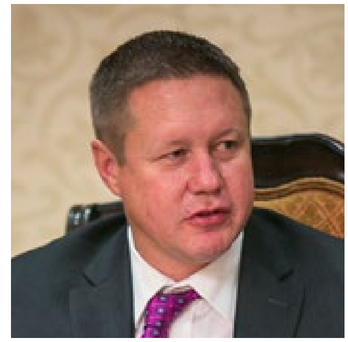
The Day in Photos

Images from Privcap's third-annual energy conference

Photos

Morning Breakout Session

Regulatory Regime Change



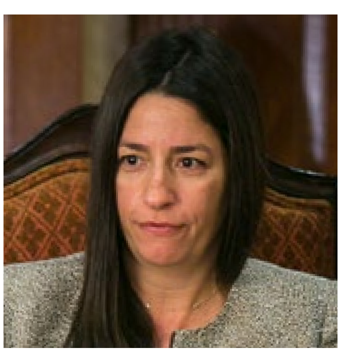
David Reece
Assistant Director,
Division of Enforcement,
U.S. Securities and Exchange Commission

Brooksany Barrowes
Partner,
Baker Botts LLP

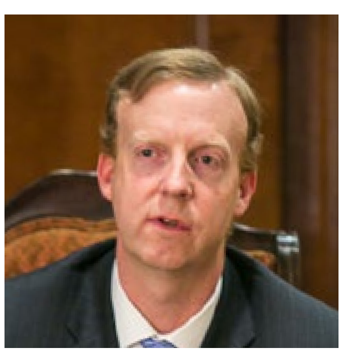
Joseph Hezir
(Former) Chief Financial Officer
U.S. Department of Energy

Morning Breakout Session

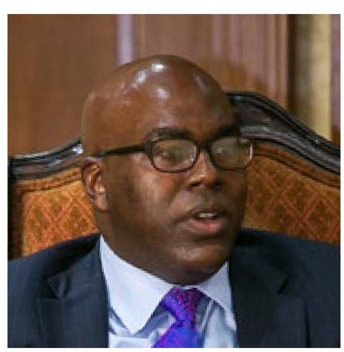
New Frontiers in Capital Formation



Nadia Sager
Partner,
Latham & Watkins LLP



Charles Bauer
Managing Director,
EnCap Investments



Lincoln Singleton
Senior Managing Director, Client Relations,
Kayne Anderson Capital Advisors

Chuck Yates
Managing Partner,
Kayne Anderson Capital Advisors

Joseph Robert Edwards
Partner,
White Deer Energy

Morning Breakout Session

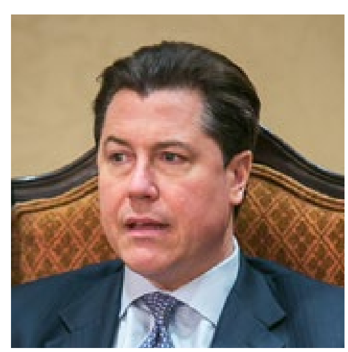
Deal Flow Dynamics

Afternoon Breakout Session

Underwriting Volatility

Richard Aube
Co-President,
Pine Brook

Elena Ippolitova
CFA / Energy Investment Officer,
Leucadia National Corporation



Ian Fay
Senior Partner,
Entoro Capital, LLC

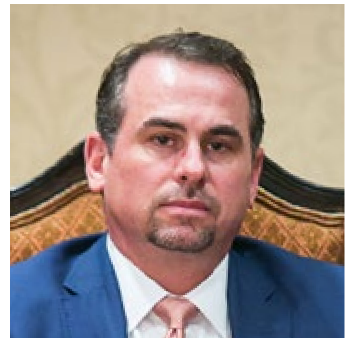
Afternoon Breakout Session

Managing the Energy Carve-Out

Brian Crumley
Co-Founder & Managing Partner,
Vortus Investments

Mark Stoner
Partner,
Bayou City Energy

Christopher Edwards
Senior Director of Finance & Assistant Treasurer,
Island Energy Services



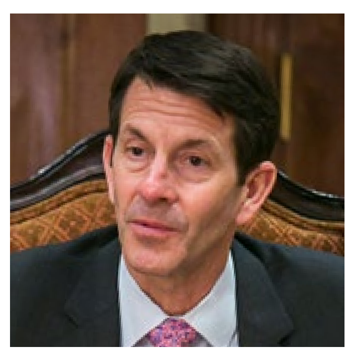
Michael Harling
Partner,
KPMG

Afternoon Breakout Session

Midstream Scene

Sharam Honari
Partner,
BlackGold Capital Management

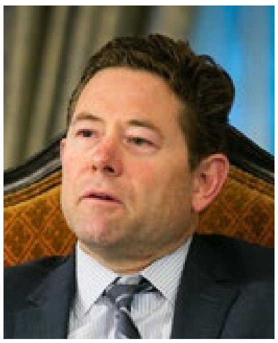
Steve Sprenger
Principal, Valuation Services,
RSM US LLP



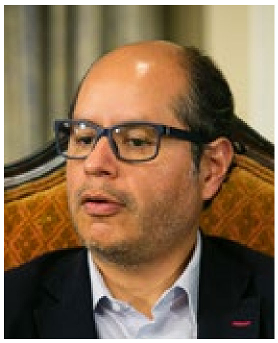
Clay Bretches
President & CEO,
Sendero Midstream

Case Studies

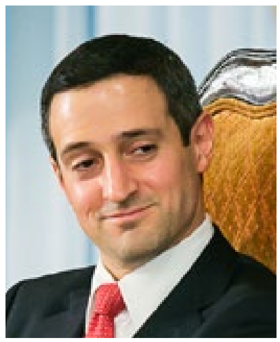
Real Assets in Mexico



Joncarlo Mark
Founder,
Upwelling Capital Group



Eduardo Fernando Prud'homme Nieves
Head of Technical Management and Planning Unit,
CENAGAS



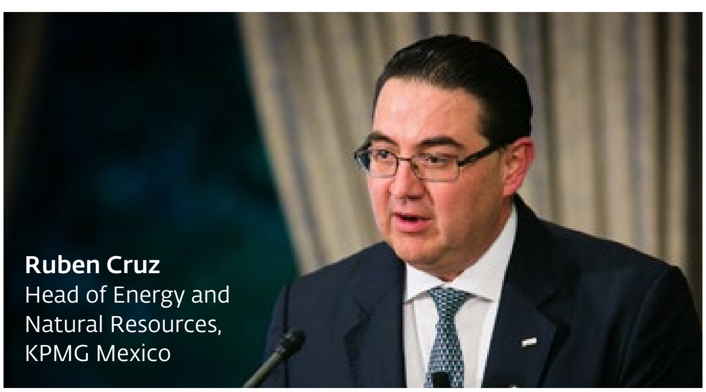
Sebastián Miralles
Managing Partner,
Tempest Capital

Brandon Blaylock
Partner and Director of Investments,
Mexico Infrastructure Partners/EXI

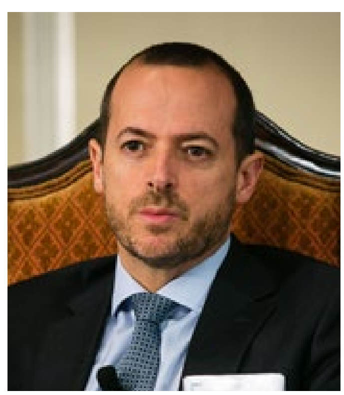
Lee Bailey
Managing Director,
Ascent Holdings, LLC

Panel Discussion

State of the Energy Market in Latin America



Ruben Cruz
Head of Energy and Natural Resources,
KPMG Mexico



Germán Cueva
Managing Director,
Riverstone Holdings

Jorge Dickens
Managing Partner,
ACON Investments

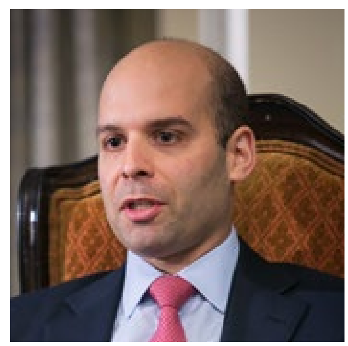
Panel Discussion

Energy Infrastructure and the "Bottleneck"

John Breckenridge
Managing Director,
Head of Clean Energy and
Infrastructure Investment Management,
Capital Dynamics

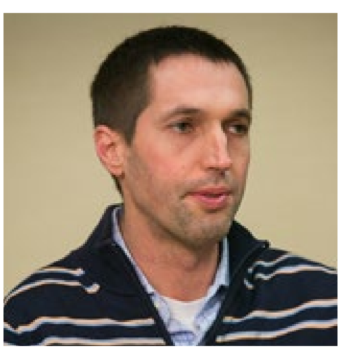
Glen Matsumoto
Partner,
Actis

Ben Krause
Partner,
3i

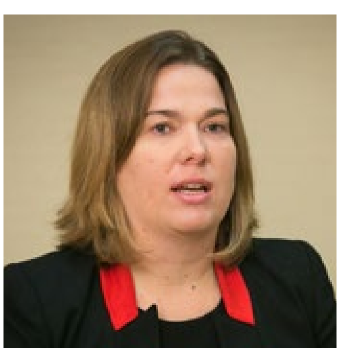


Panel Discussion

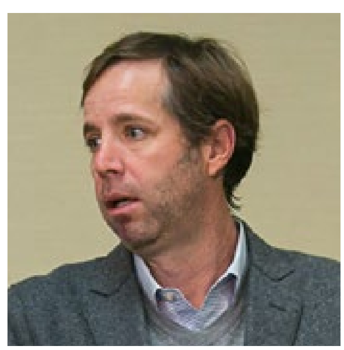
The Early-Stage Energy Opportunity



Adrian Fortino
Managing Partner,
Mercury Fund



Johanna Schmidtke
Investment Director,
Saudi Aramco Energy Ventures



Kirk Coburn
Venture Principal,
Shell Technology Ventures

Anoop Poddar
Senior Partner & President,
EV Private Equity

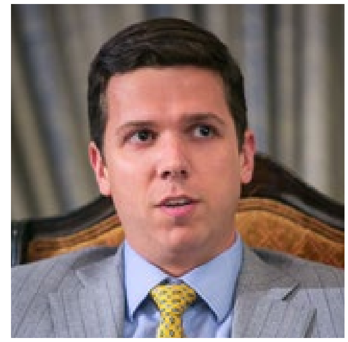
Panel Discussion

The Great Debate: The Impact of Electric Vehicles

Cathleen Ellsworth
Managing Director,
BlackRock

Raj Atluru
Managing Director,
Activate Capital

Gil Tal
Professional Researcher,
University of California Davis

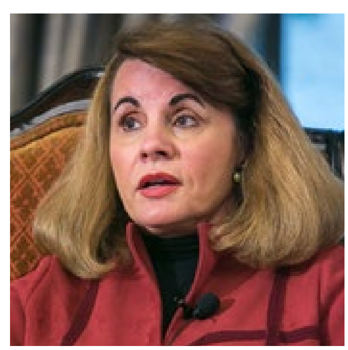


Brad Olsen
Co-Founder & Managing Director,
Recurrent Investment Advisors, LLC

Lunchtime Keynote

The Future of Natural Gas

Joseph Hezir
(Former) Chief Financial Officer,
U.S. Department of Energy



Melanie Kenderdine
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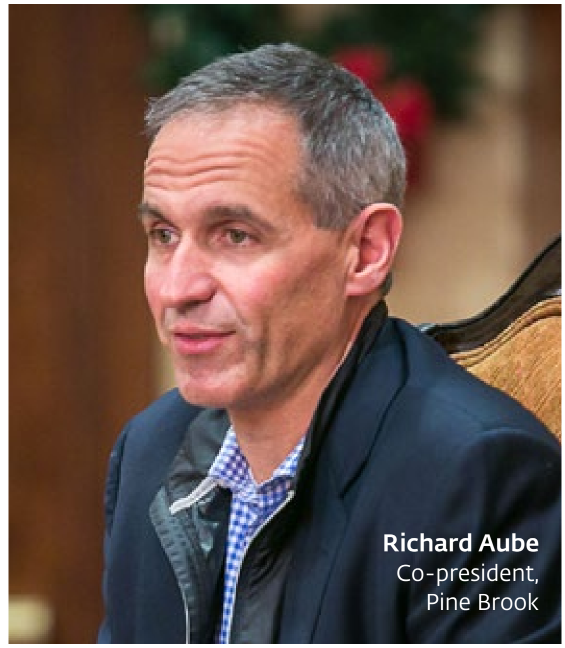
Underwriting Volatility

A veteran oil and gas investor talks about smart long-term investing with a high certainty of wild commodity swings



With 26 years in the energy investment business, Richard Aube has seen many deals through many market cycles. While commodity prices do affect the economics of oil and gas platforms, Aube stresses that smart underwriting can protect value in the long term. Here are excerpts from his recent comments at the Privcap Game Change: Energy 2017 conference, held last December when oil was in the high-$50 range.

Privcap: What are your most important considerations concerning oil price when underwriting a deal?

Richard Aube, Pine Brook: New investments for us could be new investments from the fund or acquisitions made by our portfolio companies. We don't think a whole heck of a lot about the front-month oil price or the front-month gas price. Ultimately we're underwriting rather than forecasting price. We do a heck of a lot of work to figure out where we want to be as long-term owners of resource.

So it doesn't really matter to us when underwriting a deal whether oil is at $58 or $56. It matters more where we think it's likely to shake out. Ultimately we're not trading the commodity, we're building businesses around its conversion of resource into cash flow.

We like to find opportunities where our management teams can find resource that makes good money at $50. And that's regardless of whether front-month oil is at $56 or $46.

Do you need to re-underwrite and make new assumptions with each portfolio-company add-on?

Aube: I'd love to say we don't change them. Ultimately the $50 price is driven by at least a couple of defining principles. It starts with where we think the price has to be to attract capital, meaning the price at which there is a return that will draw capital into the industry.

When we look at an acquisition for a portfolio company, we'll run a variety of different price sets and ultimately assess what we'll get paid to own this resource in the type of environment that we're likely to be in.

So it's less about forecasting and more just about a supply stack concept. The truth of the matter is that prior to [the oil price drop of] 2014, we were all searching for the opportunity to grow production in a way that became obvious. We internally started to underwrite to $60, to $65, and ultimately that's where the industry had it wrong and made goals, but we just didn't need that many barrels to balance the market. ■

International Opportunities Abound:
How Private Equity Is Targeting New Energy Plays

In a keynote interview, Leonard Tao of Kerogen Capital outlines his view on investment strategies within the international markets and the opportunities for private equity

Leonard Tao
Managing Director,
Kerogen Capital

Today the international markets offer a variety of opportunities, especially in the energy sector. Many of these opportunities are available to private equity, particularly the middle market. Kerogen Capital uses an academic approach when it comes to investing. Beyond the business of its managers, they use technical expertise to find growth opportunities within the international oil and gas sector. "With a diverse LP base our investment model includes an in-house technical team of engineers, geologists, geophysicists, that let us take a technical focus to every investment," says Leonard Tao, managing director at Kerogen Capital, a leading midmarket private equity fund formed in 2007 with just over 2 billion in AUM. "We've built up five different portfolio companies since early 2016, both in acquisitions with a focus more in the midmarket."

An International Focus

The international markets are particularly well suited for PE investment. "Today there is a large market that is underserved in terms of capital, with 90 percent of the world's crude reserves and 80-plus percent of wells production in the international segment." The different cultures, different languages that may cause trepidation to international investments are ushered with calm and expertise from a seasoned managerial team. "Oil and gas is ultimately an international industry, and so we get a lot of executives that come out of Shell, come out of Exxon, come out of BP," explains Tao. Fundamentally, many of the teams involved in international plays are Western-trained, but they understand the international landscape necessary to lead a successful deal.

According to Tao, "the North Sea is an example of a relatively more mature basin. I think we still see a number of opportunities there," he says. Israel is quickly becoming a newer play, with offshore wells offshore Israel producing over 200 million cubic feet a day. "In Israel, we are still getting comfortable with the geography and are closely watching how both the industry and the government interface." By way of background, Israel went from being an importer of all its energy needs to now finally having an indigenous source. This has allowed it to move from coal into gas. "The development of the offshore gas industry for domestic supply is one that the government wants to succeed, so they are generally supportive of a competitive business environment," Tao adds.

Any Countries to Avoid?

"Out of 54 energy-producing countries, there's only a limited few that are comfortable investing in," according to Tao. The amount of opportunities in the international energy sector has caused many to avoid hostile geographies and regimes and focus on developed markets. "Our current fund has five portfolio companies that we've invested in over the last two years," says Tao. "Three of them have U.K. assets, one Norwegian North Sea investment, and one in Israel. In Africa, there's a big oil and gas market, but there are also complexities." Back in 2011, when the oil prices were a hundred dollar a barrel it was harder to find value in the North Sea, and so many investments were focused on more-developing economies and countries. Fundamentally, the GPs are focused on any county with a strong oil and gas industry track record.

A Need for Capital and the PE Opportunity

The international opportunity is so broad that today the space is far from saturated or overcompetitive. The need for capital far exceeds the availability of capital, making it a dynamic where middle-market private equity firms can benefit. "If you look at PE energy capital since 2010, less than 10 percent of that is focused on international," says Tao. Private equity has historically played a rather limited role in the international context, and Kerogen started in the field as one of the first players in the space in 2011. "There were larger GPs in the arena, but when we're talking to LPs, I think the international segment certainly felt quite foreign to a lot of the LPs," says Tao.

Today, the diversity in the field is creating a vibrant ecosystem with opportunities for investments at all levels. "LPs are more conversant, and host governments, joint venture parties, are definitely more comfortable working with and being counterparties with PE-backed companies," Tao says.

New plays will continue to open up and get explored. But whether it's in a familiar territory like the North Sea or fairly new plays like Israel, investors are using a multifaceted strategy that puts to work a combination of investment experience, existing ties to the energy industry, and technical expertise to make the right decisions. "In terms of identifying new plays, it's about having...the historical background, knowing the right people, and having the technical insight into different assets and plays. Knowing who has done what to which asset over time has been important on identifying opportunities," says Tao. ■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Energy Open-Ended Funds on the Horizon

Nadia Sager
Partner,
Latham & Watkins

A fund-formation specialist explains why open-ended vehicles will make a good match for long-term, cash-flowing energy assets

Privcap: What is on the horizon for the energy and infrastructure industry by way of fund formation?

Nadia Sager, Latham & Watkins: The real question is, are open-ended funds the next frontier in energy and infrastructure? They certainly are in real estate. We have seen an increase in the popularity of the open-ended fund vehicle as a tool for fundraising for real estate fund managers. We haven't seen as much of that in the energy and infrastructure space. I believe the open-ended fund could be the next wave in energy and infrastructure and presents an attractive opportunity for fund managers. They can take development assets once they've stabilized and become cash-flowing, hold on to them for a long-term basis, and put those in vehicles that they can manage and control.

What are the attributes necessary for an open-ended vehicle to be successfully structured?

Sager: You need the right assets, and those need to be long-term-hold assets that cash flow. It really doesn't work to use an open-ended fund structure with something that doesn't generate a cash flow, because you need it to offer your investors liquidity, and it's always an important question as to how you're going to manage that liquidity.

What specific types of energy assets would work well in an open-ended format?

Sager: Once you've got a power plant that's operational and is cash-flowing, that's a great asset for an open-ended fund. You could think about critical infrastructure that generates ongoing cash flows. Pipelines are another example that are good assets and could be attractive in an open-ended fund in long-term-hold assets. And yes, you could absolutely use an open-ended fund for solar and wind.

Are these funds generally more accommodating to smaller investors?

Sager: In the real estate world, where you see a number of open-ended funds now, they tend to take smaller investments from a large number of retail investors. You have to be set up to successfully manage a wide variety of investors into your open-ended vehicle and open up part of the market that you might not be fundraising in today with your closed-end funds.

How does liquidity work in these funds?

Sager: There are a whole variety of ways that you can set up your liquidity for an open-ended fund. You can start with an initial lockup period of, say, one or two years. Usually there's some sort of a lockup for those coming in out of a short or medium duration. And then you can have quarterly or annual exits or—in some cases where you set up exit windows—every, say, four or five years.

Might open-ended funds be used as an exit route for private equity firms?

Sager: An open-ended fund is a great exit route for private equity firms to use for their closed-end vehicles. Firms are doing that in the real estate space where they have a fund whose mission is to develop assets or to buy and aggregate assets once they are in the value-creation stage and a stabilized cash-flowing asset. They then move it into their open-end fund vehicle, so they can move it from one part of the complex to another part of the complex that the sponsor manages. ■

Why U.S. Energy Is Winning the Race to "Break-Even"

RSM's chief economist, Joe Brusuelas and Steve Sprenger, a principal in RSM's energy practice, discuss the new pricing dynamics that have made the U.S. a major energy player

Joe Brusuelas, RSM US LLP: Steve, over the last 50 years, OPEC has really set the price for global oil markets. Due to changing demand dynamics and supply dynamics, that's no longer the case. Can you explain what's occurring and why that's important for the middle market?

Steve Sprenger, RSM US LLP: The production from OPEC used to represent more than 50 percent of world production. That's now dropped to, I believe, less than one-third. So, their ability to control prices is substantially diminished.

They all have various break-even prices that they need for oil to balance their budgets. Most of those prices are substantially higher than a lot of the break-evens for U.S. shale players.

The ability for the U.S. to continue producing at lower oil and gas prices, and for a number of those OPEC countries that really need higher prices to balance the budget, they either need to cut spending further or find other ways to finance.

Can you give me an example of a break-even price for one of the major OPEC countries?

Sprenger: Saudi Arabia has lowered its break-even price to balance its budget over the last few years. It used to be over $100 a barrel. That's come down to somewhere in the $50 to $60 range. I think Kuwait is the lowest in terms of what break-even price they need and that's still in the high $40s.

When we look at break-even prices inside the United States, whether you're in the Permian or the Eagle Ford, what's the break-even cost in those basins?

Sprenger: We're seeing break-evens somewhere between $30 and $40 a barrel.

Which means the U.S. is now part of that game in terms of not being a price taker, but actually setting the price on the global market. At least on the margin, right?

Sprenger: Absolutely. We've seen those break-evens drop nearly 50 percent and, in some cases, more than 50 percent in the last two to three years. Drilling costs have dropped substantially because of pad drilling.

What's pad drilling, for those who might not know?

Sprenger: Pad drilling is the ability to move that drill rig in different spots around a pad versus tearing down and setting up. Basically, the efficiencies are substantially greater.

When I was younger man on a trading floor, we used to spend an inordinate amount of time following rig count announcements, right? Is that important today? If not, why not?

Sprenger: The number of rigs required to accomplish the same task that was required many years ago is substantially less. So, to your point, does it mean the same thing as it once did? No. I think we have to expect that we will have a lower rig count going for-ward because of these improvements.

Let's talk beyond extraction and exploration. During the Obama era, there were 3,000 regulations put in place that created a net drag of around $870 billion on the economy. But almost two-thirds of that drag was borne by the energy industry. Now that we're seeing a bit of a roll-back of regulation, which creates the conditions where we can actually begin to work on that North American energy distribution infrastructure we needed. So, we're thinking pipes for oil and pipes for natural gas. Look forward over the next five to 10 years as a middle-market business manager would and tell us where we should be looking for progress. What will that progress mean for the middle market?

Sprenger: Obviously, the current administration is more favorable to the energy and mining sectors. The Obama administration wanted—there were a number of proposals that would have substantially changed the tax benefits for oil and gas companies, whether we're talking about tangible drilling costs or about various other depreciation and depletion methodologies that can be employed.

It's safe to say that that's all by the wayside. In terms of things like the Dakota Access Pipeline, obviously that's moving forward. Other pipelines—we expect when we think five years out, we need a lot of that infrastructure still.

From a middle-market perspective, there's a lot of opportunity for various companies, whether they're on the midstream side or the smaller midstream side. There's a great opportunity on the construction side. Certainly also on the oil-field service side, as I mentioned before. ■

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