

**Driving Progress in the Energy Downturn**  
**Montana Energy Summit**  
**Remarks by Ryan Lance**  
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It's always good being back in Big Sky Country. My roots are here. I grew up and went to college here. My extended family also lives here. And my mother's in Billings. So my early memories include a lot of familiar places from Wolf Point, to Great Falls, to Billings, to Whitefish – where we still have a home. I vacation here each summer and winter. I love Montana and my family does too.

When I graduated from Montana Tech back in 1984, in-state jobs were few and far between for petroleum engineers. We knew that 80-to-90 percent of us would have to leave. So I'm particularly pleased that Montana's economy is stronger today. Proof of this progress – ConocoPhillips now has a Billings office for engineers and accountants.

That's thanks to Montana's abundant natural resources, its people and its leadership. I salute Senator Daines and Congressman Zinke for their work and for bringing this summit together.

There's a lot to talk about. Over the past 10 years there's been a renaissance in U.S. oil and natural gas production. It has helped revive the economy of the Rocky Mountains region and the entire U.S.

Of course, the industry has now run into a "perfect storm" in the marketplace. So my topic today is "Driving Progress in the Energy Downturn." I'll talk about the market situation and prospects for a recovery, how the industry is responding, what this means for the energy renaissance, the ongoing importance of technology and innovation, and how Montana can pursue future prosperity. Then we'll have an opportunity for discussion.

The Downturn

Let's start with the downturn. One of the keys to the oil price collapse was U.S. liquids production. It's up by six million barrels per day just since 2008 thanks to shale. We're now the world's largest oil producer, recently passing Saudi Arabia. In addition, we've found so much natural gas that the U.S. and Canada now hold a century of supply.

Meanwhile, other key events were happening in the market. The world economy was retreating from its high growth of the mid-2000s. So energy demand growth slowed down. Also, energy efficiency was rising. That was thanks to tougher building standards and more efficient vehicles.

So today we have oversupplies of oil, natural gas and liquefied natural gas – or LNG. And weak commodity prices across the board. As a result, we’ve re-learned something. The oil and gas business is easy with oil at \$100 a barrel. But it’s really tough at \$30 and below. There aren’t many industries that experience a 70 percent drop in revenue in less than a year’s time. Meanwhile, natural gas is priced well below \$2 per thousand Btus. It was five times that in the mid-2000s.

So today’s producers are fighting to survive in a business that’s highly volatile, cyclical and competitive. There’s a quick and obvious response path – cutting costs. This was badly needed. Service and supply costs had quadrupled. So we’re now capturing cost deflation. That helps, but not enough.

I’ll use our further actions at ConocoPhillips as an example of what many companies are doing. One example is we’re optimizing our operating procedures. We recognize that greater internal efficiency will benefit us regardless of future market swings. Between this and cost deflation, we anticipate several billion dollars in total savings this year.

Meanwhile we’ve cut our capital program. We invested \$17 billion into our company in 2014. We cut that to \$10 billion last year. And this year we plan for less than \$6.5 billion. Of this, two-thirds will go to development projects that have low cost of supply and shorter cycle times. This means they can come online quickly and cheaply.

Shale wells are good examples, provided they’re in the best areas – like parts of the Williston Basin. Even so, we’ll soon be down to only three drilling rigs running in the entire Lower 48 States. And only one is planned in the Bakken. We had 10 rigs running there in 2014.

Now, let’s look to the downturn’s impact on the broader economy. In recent years global commodity-related investments made up 30 percent of all capital expenditures. Cuts in oil and gas upstream spending from 2015 thru 2019 are predicted to total \$1.6 trillion. These cuts are impacting business sectors throughout our supply chain and the broader economy.

As a result, the U.S. lost 0.4 percentage points in economic growth last year, according to Oxford Economics. That’s a lot when we’re talking annual growth rates of two or three percent.

Yes, fortunately, the U.S. economy is still growing. But the question for producers – and producing states – is what lies ahead regarding the current oil and gas downturn.

#### The Possible Upturn

One of my coworkers jokes about an ancient Persian philosopher. He was called before the emperor, who said, “Tell me two great truths that will stand throughout eternity.”

The philosopher thought about it and said, "Oil prices will remain uncertain." And for the second truth, he said, "This too shall pass."

I entered the oil industry in 1985, just in time for a big price collapse. In fact, today's downturn is now my sixth. But I've also been through five upturns. And I'm looking forward to the sixth upturn.

Historically, low prices have always forced investment cuts. So drilling activity goes down and production follows. But U.S. production has declined only a little. And declines elsewhere could take even longer in countries with longer project cycle times. Meanwhile, again historically, low prices tend to stimulate demand. We did see that last year. So in theory, today's low prices are already sowing the seeds of the next upturn.

Currently, the world has only a narrow surplus in crude oil production capacity, from one to two million barrels per day. That's about how fast global demand is growing each year.

So some believe the surplus will be absorbed by late this year, or early next year. And that then, storage inventories – which are high right now – will begin to decline. After that, the market will ultimately strengthen.

But there are also other scenarios. Rebalancing could happen faster if any production goes off the market. For example, if there are geopolitical events, like unrest in producing countries. Or if more non-OPEC production declines. Or if OPEC members and other countries decide to limit production. They plan to meet on April 17 to discuss this.

On the other hand, there could be counteracting events. Like more oil coming onstream from Iraq or Iran. Or demand growth weakening due to decelerating economies in the emerging markets.

So depending on how these factors play out, we could see future volatility. The market could go up. It could go down. Or it could swing back and forth. In that scenario, U.S. shale production could wind up becoming the marginal supply. Meaning that as oil prices rise or fall, U.S. production could rise or fall in response until the market rebalances each time.

As for today, oil prices have come up a little in recent weeks. But we don't know if this is a blip or a long-term trend. Our view is that prices will remain relatively low for a while yet, possibly into 2017.

We believe that in such an uncertain market, the companies that fare the best will have four characteristics.

- First is a diverse portfolio that includes assets with a low cost of supply. Again, North American shale located in the sweet spots is an example. Its low supply costs will help protect investment returns even at low commodity prices.
- The second characteristic is a legacy base of low-decline producing properties. This provides stable funding through the price cycles.
- Third is low capital intensity. This provides capital flexibility so you can ramp spending up or down in response to commodity price swings.
- And the fourth characteristic is a strong balance sheet. This enables you to weather downturns without having to add too much debt. It also provides the ability to take advantage of upturns.

### The Energy Renaissance Will Continue

I've talked a lot about market uncertainty, and how to respond to it. But I can assure you that uncertainty doesn't extend to the U.S. energy renaissance. It's here to stay.

Last April, U.S. oil production reached its highest in 45 years. It has since fallen, but only by four percent. Meanwhile, our proven oil reserves are also at a 45-year high. They're up 90 percent in only six years. So too, U.S. natural gas production is at an all-time high. As are proven reserves – in this case, up 128 percent in just over 20 years.

U.S. shale resource potential is enormous. We're in the early innings when it comes to exploiting that potential. There are more than a dozen productive shale trends in the Lower 48. Plus several more in Alaska and Canada.

Besides that, you have Canada's oil sands. They are the world's third-largest petroleum deposit, behind only Saudi Arabia and Venezuela.

North American production growth may have been sidetracked. But that's only due to the downturn. These resources aren't going away. When oil prices recover, growth will resume, depending on the extent of recovery.

Of course, this means more than just industry statistics. A government official told us a few years ago that most of the major issues our country faces relate somehow to energy. For example economic prosperity, job creation, balance of trade, foreign relations, climate protection, air and water quality and so on.

I'll mention just a few of the connections. On the drive here this morning, I saw gasoline prices in the \$1.90s range. Deflated to 1962 dollars – the year I was born – that equals about 25 cents a gallon. So from that standpoint it's the good old days all over again, thanks to the energy renaissance.

With the U.S. transition from energy scarcity to abundance, our standing in the world has changed. Our national energy security has improved. We no longer need to import

liquefied natural gas at all, or as much oil as in the past. This has enhanced our balance of trade.

As for natural gas, it's selling at bargain prices. This has cut home heating and electricity costs. And it has jump-started U.S. manufacturing. We're seeing new facilities built in multiple industries – chemicals, petrochemicals, metals, fertilizer, automobiles, equipment manufacturing and more. Until recently, such plants would have been built in other countries instead. Now they're coming here, thanks to our abundant energy at reasonable cost.

Then there are jobs. At peak a couple years ago, oil and natural gas directly supported 2.6 million U.S. jobs. And counting indirect and induced jobs – those created by all our operations and capital investments – the total was 9.8 million jobs. We generated around eight percent of the U.S. gross domestic product. We don't yet know how much those numbers may have declined. But we remain part of the economic backbone.

Then there are the environmental benefits. Using natural gas in power generation has helped cut U.S. energy-related greenhouse gas emissions. They're at their lowest since the early 1990s. Water use by the power generation sector has also gone down.

As for the future, as economies worldwide continue to develop, energy demand will grow. So all forms of energy will be needed in the decades ahead – including fossil fuels – in ever-cleaner applications.

#### The Role of Technology & Innovation

In a market like today's – as well as in any foreseeable future scenario – technology and innovation remain essential. For example, despite the downturn, we're seeing higher initial volumes and total recoveries from shale than anyone thought possible a few years ago. But shale technology today is only where conventional reservoir development was 30 or 40 years ago. Much more progress will come.

We're already achieving success in driving down cost of supply. We're innovating by drilling longer lateral or horizontal well extensions – a mile or more in length. And we're connecting more of these laterals to individual wellbores. They provide greater exposure to the producing formation.

At the same time we're using more fracturing clusters – up to 200 in each lateral. That's nearly triple the number we used in 2013. These create more micro-fissures in the rock, which improve oil and gas flow.

On the surface, we're concentrating more wells onto fewer drilling pads. This cuts costs and reduces our footprint. We're reducing water use, and increasing recycling.

We're also working to standardize everything from downhole gear, to wellheads, valves, instrumentation, compressors and processing equipment. We're trying to go from hundreds of options to a few basic applications. By doing this we reduce design work, facilitate inventory control and reinforce economies of scale in our purchasing.

We're also using "big data." We own one of the world's 30 most powerful super-computers. We use it to analyze seismic data. Besides that, the availability of low-cost sensors gives us massive amounts of information. When we analyze this data as a whole, it helps better predict likely results. So it helps guide our actions.

In the Canadian oil sands, we've cut development costs and reduced emissions. And we foresee further innovations ahead there as well.

#### How Montana Can Drive Progress

Now, let's look at what Montana can do to drive its own progress. First and fortunately, Montana recognizes the importance of its resources. Not just coal, but oil and gas and other minerals as well.

Gas heats more than half your homes. Oil and gas together recently supported more than 40,000 jobs statewide. This is over six percent of all the jobs in Montana. They generated nearly eight percent of the state's total labor income.

The commodity price downturn has hurt Montana's economy. State unemployment is 4.1 percent. That's up from only 3.5 percent when I spoke here a year ago. But it's still a full point below the U.S. average.

There are things Montana can do to maximize its opportunities. Beginning with government. Montana should continue a business-friendly legislative and regulatory approach that benefits all businesses, including energy. Key to this are reasonable and stable legislative and regulatory measures regarding taxation and environmental oversight. Another key is maintaining cooperative relationships with business. Not all states do this.

Montana must also clearly and strongly present its case in Washington. As everyone in the Western U.S. knows, federal policymakers may see things differently than people out here do.

Also, support of education is essential. Reality is that Montana must compete for new business opportunities. The educational level of its people must be a prime selling point. Our universities must compete for the best students and faculty – the ones who can carry us into the future. To do this, our universities must continually evolve. There are always industries and professions on the rise while others are holding strong, and some are declining. So the curriculum can never be set in stone. Also, we have to offer attractive facilities in which students can live and learn.

Just as importantly, we cannot wait until college to encourage academic achievement. Educators tell us that the leading indicator of future high school and college success is taking and passing Algebra 1. That comes as early as seventh grade. So we must pursue educational excellence in all grade levels.

We have to encourage study of the STEM fields – science, technology, engineering and math. Not everyone needs to go into these fields. But their study enhances rigor, and ability to engage in critical thinking and problem solving. The extent to which Montana encourages this could provide a competitive advantage.

So too would renewed emphasis on occupational and vocational training. That will help prepare those with greater aptitude in these arenas.

### Closing

In closing, I'll emphasize once again these points:

- The commodity price downturn has hit the oil and gas industry hard.
- This too shall pass, though a recovery might take a while – and could be a little uneven.
- The downturn has not ended the energy renaissance. U.S. resource potential remains strong.
- Technology and innovation will be increasingly important levers for our industry.
- And there are things that Montana can do to drive progress – even in an energy downturn.

Thank you.

Let's have some questions and discussion.

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