

Montana's Energy Industries

Year of Change?

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The rapid pace of innovation and change in the domestic energy industries has produced an upheaval in markets so profound that it has been dubbed a revolution by some. While technology changes introduced terms like “fracking” and “the Bakken” into everyday conversations across our state, it is an old and familiar issue that might be most important to Montana’s short-term energy future – the prospect of an oil price bust. As of this writing, Central Montana sweet crude is fetching less than \$50 per barrel, drastically changing the entire equation for new investment and production.

Even before the crude oil price freefall that began in earnest in mid-fall, the U.S. energy sector faced some formidable headwinds in 2014. Environmental concerns over hydraulic fracturing in the oil and gas industries, new EPA CO₂ emission standards for coal, and raptor and sage grouse protection issues affecting all development created new uncertainties. And slowing or stagnant growth in markets abroad – particularly the slower pace of growth in once-booming Asia – has produced the outcome in oil markets many producers and state treasuries (including Montana) have feared.

The Situation in Oil

The West Texas Intermediate (WTI) price has declined by almost 30 percent since the beginning of October. This decline in price is the

result of slower economic growth in Asia combined with a significant increase in U.S. domestic production. There was also a second oil price shock that occurred near the end of November. In a matter of days, prices plummeted by almost 17 percent – the market’s reaction to OPEC deciding to maintain production targets at current levels.

Before this price collapse occurred, U.S. production had grown by more than 36 percent from 2010 to 2013 while imports have declined by 16 percent over the same period. This remarkable turnaround was primarily driven by horizontal drilling and hydraulic fracturing methods – a technology advancement that has changed the drilling landscape for many of the tight shale formations in the U.S. Specifically, drilling in the Eagle Ford formation in Texas and the Bakken formation in North Dakota was leading the way toward energy

independence. As Figure 2 shows, U.S. production was almost equal to imports in 2013 – a condition that did not exist since the early 90s.

However, with such a profound drop in prices, the question becomes: What will happen to domestic production and what are prices expected to be in the future? Will companies redirect investment away from marginal exploration and focus more on economical areas?

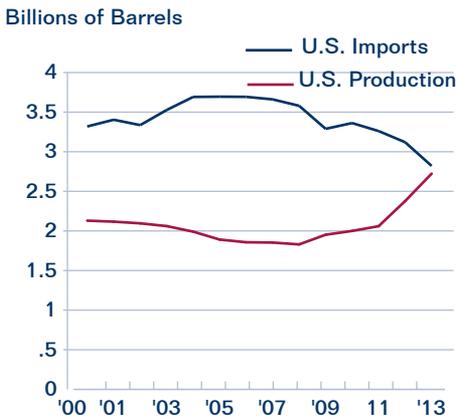
According to the U.S. Energy Information Administration (EIA), WTI oil prices are expected to average \$62.75 per barrel for 2015. Prices are expected to be lower during the first half of the year and then gradually increase during the second half. This outlook is based on expectations that world consumption next year will be less than global production and that OPEC producers will not curtail production. Domestic production, especially from tight oil plays, is

Figure 1
West Texas Intermediate Oil Prices



Source: U.S. Energy Information Administration.

Figure 2
U.S. Domestic Oil Production
vs. Imports



Source: U.S. Energy Information Administration.

expected to slow. These plays have high decline rates which require high levels of drilling to maintain production. Because producers have already made investment and drilling plans for the first half of 2015, the slowdown is not expected until the second half of the year or potentially into the following year. If the deceleration does not occur until 2016, then there is the possibility that production could increase modestly in 2015. Low prices, reduced production, and reluctance for new investment indicate that the outlook for the industry is not positive, and the ramifications on state and local government finances could be significant.

Other Important Energy Developments

U.S. production of natural gas has increased by almost 22 percent since 2007. Similar to oil, natural gas production growth can be attributed to shale formations and hydraulic fracturing. The U.S. is now the largest natural gas producer in the world.

The U.S. coal industry has been struggling for the past several years.

Since 2008, U.S. domestic production has declined by more than 16 percent. Reduced demand from U.S. power plants and the implementation of the new EPA CO₂ emission standards has taken its toll on the industry. According to the EIA, consumption by electricity producing power plants (93 percent of domestic production) has dropped by over 17 percent since 2008. Slowing growth in markets abroad has limited export potential.

U.S. wind production has increased by more than 200 percent since 2008. Montana's wind generation sector has also experienced significant production growth – 236 percent since 2008. There are currently 12 wind generating facilities in Montana. Environmental concerns over the use of fossil fuels, federal production tax credit (FPTC) incentives, and reduced costs associated with wind turbines, have all contributed to enhanced wind production.

The Public Service Commission approved the purchase of 11 hydroelectric facilities by NorthWestern Energy from PPL Montana. According to NorthWestern Energy, customer rates, due to the purchase, will probably increase by 5 percent to 7 percent. Longer term rates, however, will be based on the cost of production minus depreciation which will reduce supply charges to the consumer. Owning the dams limits NorthWestern's exposure to volatile market conditions.

The Short-Term Outlook

High oil prices have been the catalyst for such game-changing investments as horizontal drilling and hydraulic fracturing. These innovations are not going away, but

the pace of investment is going to change abruptly in 2015 unless price declines are reversed in a hurry. With current prices, producers will be reluctant to invest, especially in Montana where the return potential is lower compared to other states. Reduced investments will cause production declines especially in the second half of the year. Total value of production will be below last year's amount.

Hydraulic fracturing has reversed the downward trend in U.S. natural gas production. This technology has been deployed in states like Pennsylvania and Texas where the economic return is high. In the near term, prices are expected to be flat as U.S. production and consumption are expected to be relatively equal with stable inventories. New technologies have been applied in Montana, but producers will be reluctant to invest significantly in Montana when the return potential is much higher in other states. The industry in Montana will be stable at best.

The coal industry is facing some very difficult times ahead. Slower world economic growth combined with significant U.S. environmental issues does not paint a bright picture for the industry. Unless the industry can find creative ways to tap into a larger export market, the industry in Montana will experience a decline.

Wind is somewhat of a bright spot for Montana, but future development depends on the FPTC policy. Extension of the credit could spur additional development while no further action by Congress will discourage further development. Since the repeal of the FPTC there has been minimal new development in Montana.