



MEMORANDUM

TO: Investors and Analysts
FROM: Rodney L. Waller
DATE: September 25, 2014
RE: Recent Reports Regarding Future Natural Gas Prices

Several reports have been published recently expressing opinions about future natural gas prices in the Appalachian basin. Although most of this research assumes continuing over supply in Appalachia, none of the reports acknowledge Range's strategy of utilizing low cost transportation to move gas to better markets outside the basin which will yield higher gas realizations. Like most in the industry, Range believes natural gas pricing is the result of the supply and demand balance at each sales point. The easiest way to see that in real time is the pricing at individual supply/demand points as reported on ICE each day. Aggregating data over the entire Appalachian basin lends itself to some broader macro analysis but is not the proper approach to evaluate company specific effects of pricing at discreet delivery points and it's certainly not an accurate reflection of the economics of Range's portfolio of transportation and sales agreements.

Currently we believe Appalachian demand for natural gas is 8 to 10 Bcf per day during the summer and 20 to 25 Bcf per day during the winter. Current production in Appalachia is about 16 Bcf per day. Demand in the Appalachian market has now become highly seasonal. In the periods of time other than winter, when demand is highest, natural gas has to be transported outside the basin to other markets to be sold. Pending the upgrades to existing infrastructure to allow bi-directional flow or the construction of new gas transportation infrastructure, transporting Appalachian natural gas to other markets has largely been done by back hauling the gas. The available transportation by back haul is limited and not all the Appalachian gas from the various Appalachian sales points can be transported efficiently outside the basin. The result has been significantly more supply than demand at those delivery points lacking sufficient available transportation. This has resulted in natural gas prices at those points being discounted to attract greater demand.

Range believes, based on historical precedent, that as the supply of Appalachian natural gas moves to other markets, existing supplies will more closely balance with the existing demand and natural gas prices should normalize to a Henry Hub NYMEX price less the average transportation cost to get to the market. As demand grows in the future years at markets where delivery is more competitive or congested, natural gas prices should move to a premium over Henry Hub to attract more natural gas to be moved to those

delivery points. Historically we have seen these macro-economic forces repeat themselves in the marketplace.

One of the recent reports expressed an expectation that Southwest Marcellus/Utica natural gas prices could be ~\$1.30/Mmbtu below Henry Hub through 2019 and prices in Northeast Marcellus at a ~\$0.50/Mmbtu discount to Southwest Marcellus. We have the following comments and concerns with the analysis:

1. The report appears to acknowledge that 11.0 Bcf per day of infrastructure is being built to the Midwest, 9.4 Bcf per day to the Gulf Coast and 2.0 Bcf to the Southeast. We believe it is self-evident that moving 22.5 Bcf per day of natural gas out of the Appalachian basin will have the effect of increasing local gas prices unless supply grows by the same 22.5 Bcf per day or more.
2. The report estimates export pipeline capacity additions of 22.5 Bcf per day versus supply growth of 15 Bcf per day and yet forecasted no improvement in long term Appalachia price differentials. Excluding projects to New England, the announced transport costs of these pipelines at the high end appears to be around \$0.60 - \$0.85. Producers who signed up later in the process may be burdened with higher unit transport costs, but this is not true for early movers like Range who have contracted for relatively low cost long-term firm transport to diverse markets.
3. Each producer is building its own unique portfolio of transportation agreements and delivery sales markets and therefore, the resulting effect will be different for each producer. Those producers that move their gas from the Appalachian basin to other markets at the lowest transportation cost to the highest sales market will obviously have the best economics. The report's macro conclusion is based on "transport economics" where it was assumed that producers retain any excess transportation capacity and that such transportation is not utilized to move addition gas supply out of the basin. This assumed retention of transportation capacity and the associated costs by each producer keeps the oversupply in Appalachia while signaling to the Gulf the need for a higher Henry Hub price to incentivize production from marginal areas. This report's scenario creates the situation of excess takeaway capacity from Appalachia but continuing excess supply in the basin. Even if that assumption were plausible (which we doubt), this is clearly not applicable to Range's portfolio of transportation contracts ranging from \$0.28 in 2014 to \$0.39 per Mmbtu in 2018 covering all of our projected growth through 2018 for dry gas allowing Range to sell its gas to pricing points outside of Appalachia.
4. The report did not include the expected 7 Bcf per day of additional infrastructure being built to the Atlantic Coast region which would further alleviate the pricing pressure in Appalachia.
5. Range believes that by the end of 2016 there potentially will be 10 Bcf per day of transportation infrastructure from the region in excess of supply that will be absorbed in the future as additional supply is developed in anticipation of the 20+ Bcf per day of forecasted increase in demand by 2020. Further expansion of infrastructure will be required to meet that projected demand. History shows that transportation often is overbuilt. If this were to occur in Appalachia, Range would likely take advantage of released excess industry pipeline capacity to further enhance our ability to sell gas at more attractive markets.

6. The winter markets in Appalachia are currently under supplied and cannot source all the natural gas supplies from the basin. Therefore, during the winter heating season, Appalachian market prices are expected to be higher just as they have been historically to obtain sufficient heating season supply. This is evidenced by the Non-New York and New York City Gate prices in the current futures market for the current winter season are quoted today at ~+\$2.00 and ~ +\$4.00 over Henry Hub prices.

7. Large volumes of supply in Northeast Pennsylvania are constrained until new infrastructure can be permitted and built which will take time. The Southwest Pennsylvania area has more existing infrastructure that can be expanded in the near term to alleviate oversupply in that area. Range benefits by having the majority of its grown in production coming in the Southwest region.

8. The Dominion South delivery point reference in one recent report is historically a liquid trading point in Appalachia but is not representative of the Appalachian basin as a whole. Current future indicative quotes for other Appalachian delivery points are:

Season	Dominion	TCO	M3	Non NY	Transco Z6
Nov 14 - Mar 15	\$ (1.2750)	\$ (0.1100)	\$ 1.2000	\$ 2.1000	\$ 3.9500
Apr 15 - Oct 15	\$ (1.4600)	\$ (0.2750)	\$ (1.2600)	\$ (1.0900)	\$ (1.1600)
Nov 15 - Mar 16	\$ (1.1500)	\$ (0.4000)	\$ 0.8500	\$ 1.2800	\$ 2.8500
Apr 16 - Oct 16	\$ (1.2050)	\$ (0.4500)	\$ (0.4500)	\$ (0.9800)	\$ (1.0500)

Range believes that it is strategically positioned with attractive transportation agreements and sales markets in place for 2018 and beyond to move the majority of its projected Appalachian natural gas production to higher index markets. The markets are still evolving and new opportunities continue to arise to upgrade our contracts and delivery points to capture more premium sales markets.

The IR staff is here to discuss any questions that you might have and are always open to discuss issues that will allow investors to have an accurate and informed view of Range.

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