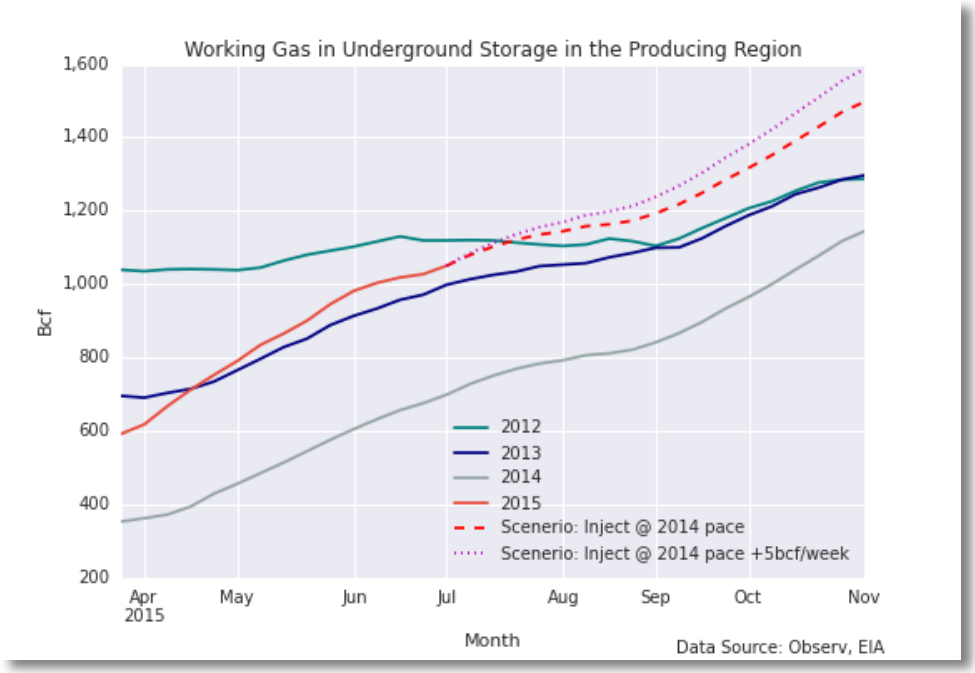
OBSERV commodities

July 2015

The True Impact of REX East-to-West Expansion on NYMEX

Pipeline analysis demonstrates how Marcellus production with the aid of REX expansion is driving the strong storage injections in the producing region.



This summer, REX's East-to-West expansion (Rockies Express Pipeline Zone Three Capacity Enhancement Project) seems to be the talk of the gas market. While there are various theories about the impact of Marcellus production brought to the Midwest by REX, this paper shows that the biggest impact is the increase in storage injections in the Gulf. In the current injection season, while the pace of injection in the East consuming region has trended similar to that of last year, the pace of injection in the producing region has been much faster. The regional gas balances have turned this expansion to a much more bearish event than the market is expecting. With more gas coming online from REX's East-to-West Expansion project in the next month, pipeline analysis indicates storage in the producing region will continue its fast injection in August and September. REX's expansion will continue to suppress Henry Hub cash prices. October NYMEX contract is fundamentally weak.

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Analysis

Marcellus production seeping into the Midwest has displaced imports from the Gulf. This in turn drove the faster-than-normal injection pace in the producing region this summer. Instead of flowing to the Midwest, such portion of Gulf production goes straight into storage. As more Marcellus production reaches the Midwest via REX's East-to-West Expansion project, more gas will be pushed back to the Gulf. Thus, the high injection rate in the producing region will continue for the rest of the summer; even with a warm summer, congestions will occur in the producing region. Such dynamic is quite bearish for October NYMEX contract. In the rest of the paper, we lay out how pipeline flow analysis supports this conclusion.

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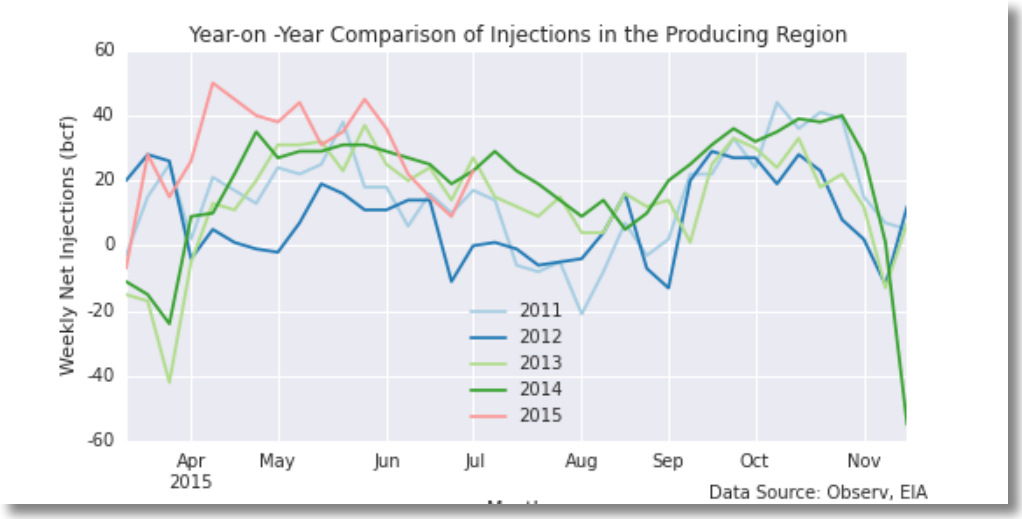

The first dataset we drill into is the index of customer data. Index of customer data shows us which physical trading shops have been involved in this play and sheds light on how they plan to profit from this opportunity. Since April, nine physical trading shops have been testing the water with firm transport subscriptions within zone 3 on REX. As the graph below shows, the shippers bought transport subscriptions to source production from Ohio and deliver the gas onto Trunkline Gas Company, Natural Gas Pipeline Company of America (NGPL), Midwestern Gas Transmission, ANR Pipeline Company, and Texas Gas Transmission. These are the pipelines we will then focus on.

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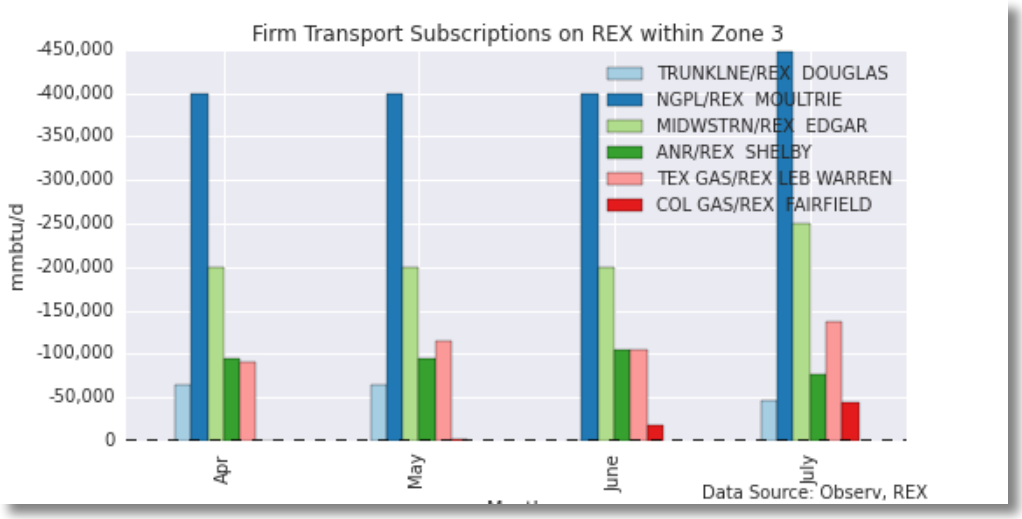

With the gradual build out of REX's expansion project coupled with the transport subscriptions, we can see the increase in flow on REX from east to west starting in April. Total receipts in Monroe County and Seneca Lateral in Ohio reached 1.3 bcf/d in the first half of July.

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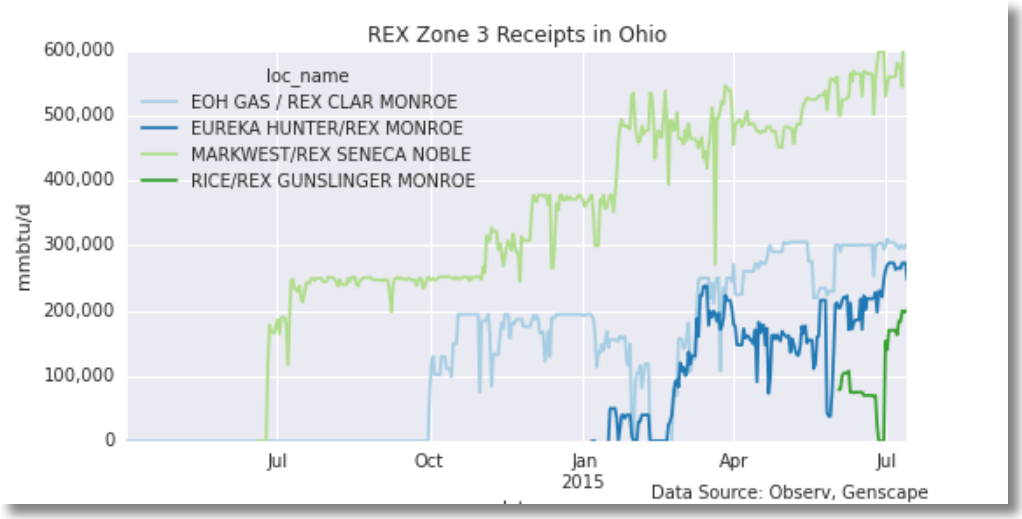
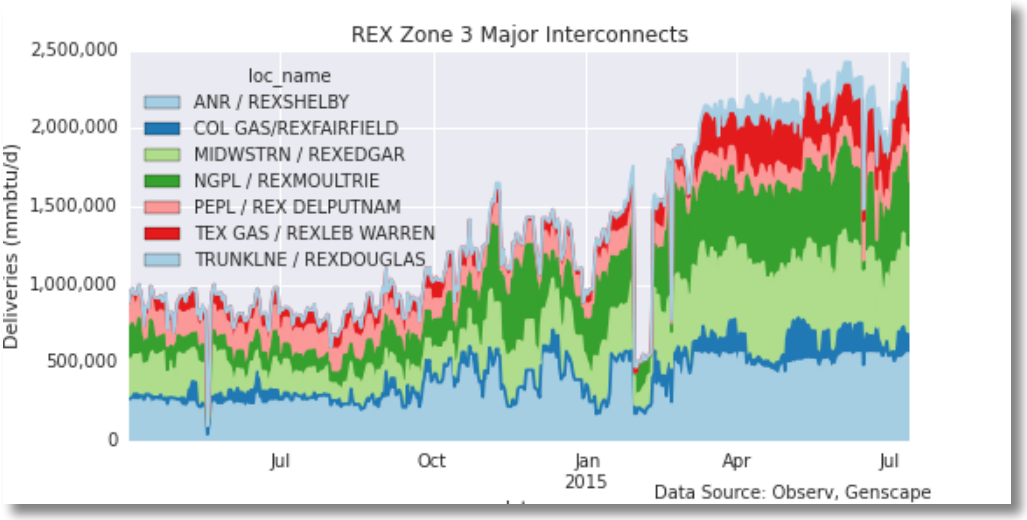


For those who are waiting for the magical August 1st in-service date, it is critical to bear in mind that part of these expansion project has already come online and the additional Marcellus production flowing on REX has already begun. For the shippers that hold firm transport subscriptions to these receipt points, their goal is to deliver the gas onto the five pipelines (Trunkline, NGPL, Midwestern, ANR, and TGT). These deliveries have pushed and will push back more gas into the Gulf region.

Part of REX's expansion project has already come online and started flowing gas westward.



Individual pipeline analysis confirms such trend. Let's start with Trunkline. Trunkline historically brings gas from Texas and the Gulf up to Illinois and Indiana. When shippers flow gas from Marcellus production via REX onto Trunkline, a portion of the gas is nominated be delivered to Consumer Energy up north in Illinois. Marcellus production is thus displacing the Gulf production in meeting the demand in the Midwest. Trunkline is also getting more deliveries from Panhandle Eastern Pipeline. This means in the summer time, when demand is weak, Trunkline will eventually split into half: Panhandle and REX will supply the demand in the Midwest while Gulf production will meet the demand for injections in Louisiana. The graph below demonstrates how, on Trunkline, as net receipts in Illinois increase, more gas is pushed down south and thus deliveries in Louisiana increase.

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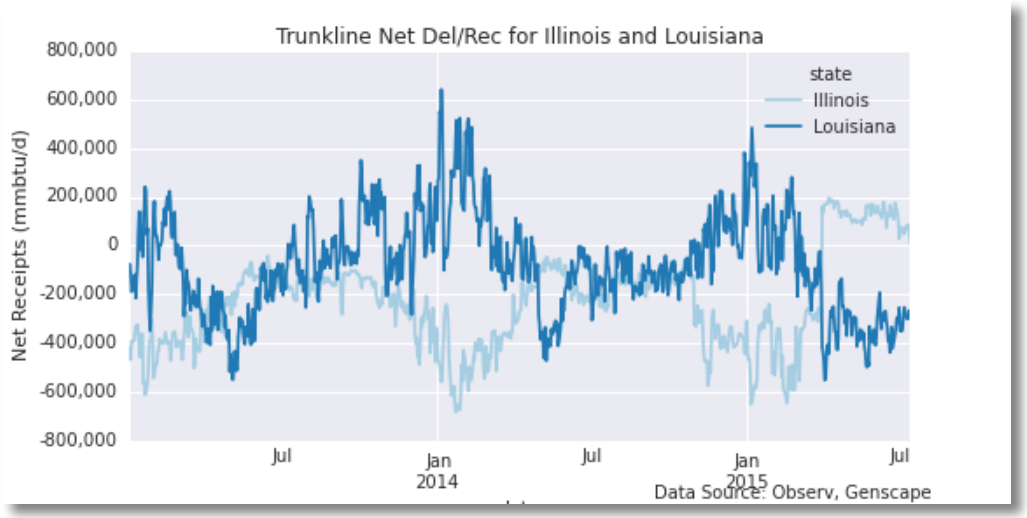

A similar pattern is happening on TGT. The graph shows that in April, an increase in deliveries in Louisiana coincided with an increase in net receipts in Ohio.

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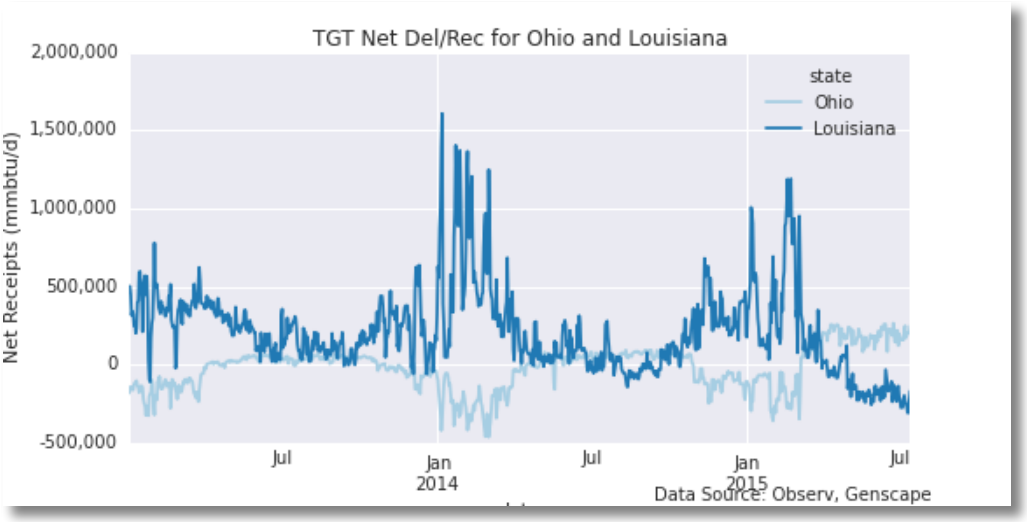
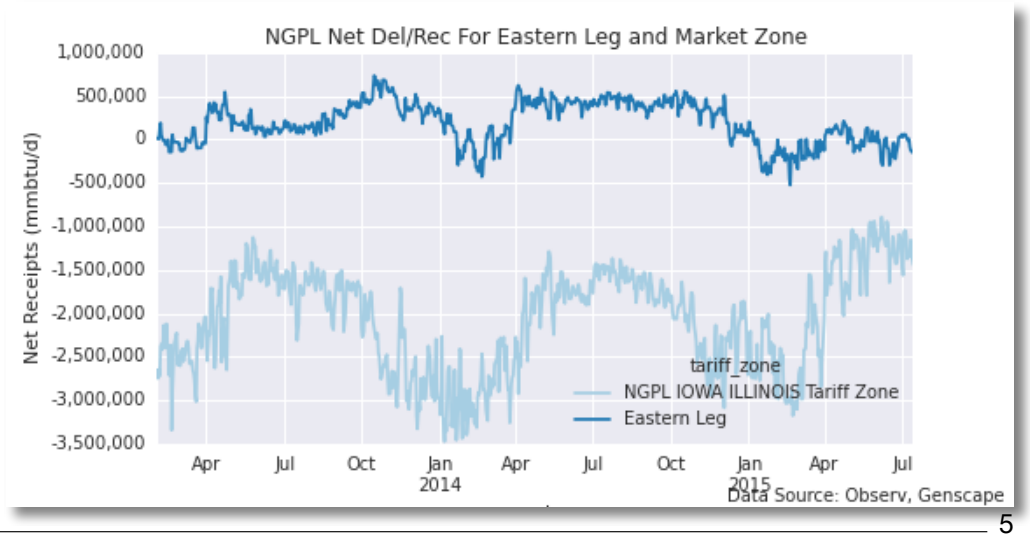


The gas flow pattern on NGPL's eastern leg from south Texas, through Oklahoma and up to Illinois is changing with REX's delivery. NGPL's interconnect with REX is the delivery point that will absorb the majority of Marcellus production. REX is anticipating that the capacity for this interconnect will expand to 1,750,000 mmbtu/d from the current delivery capacity of 615,000 mmbtu/d. The graph below demonstrates how as net deliveries in downstream (IA/IL zone) decreased this past summer, the net receipts in the three tariff zones on the eastern half of the pipeline turned from positive to negative (the pipeline went from net receipts to net deliveries). Current transport contracts show that shippers are flowing gas from the REX/NGPL interconnect to Nicor Gas in the the Midwest. There is also BG's transport contract that may bring gas from REX to Louisiana. Whether Marcellus production is exporting to the Gulf directly or is displacing Gulf imports into the Midwest, the net effect of REX's east-to-west flow on NGPL is more gas into storage in the Gulf.

REX's east-to-west deliveries on NGPL is pushing more gas into storage in the Gulf on NGPL.



Then there is REX's delivery onto Midwestern. The REX/Midwestern interconnect currently has a delivery capacity of 652,000 mmbtu/d . The first jump in the REX/ Midwestern interconnect is in October 2014 from Seneca lateral. In the past few months, this interconnect has been flowing between 500,000 - 600,000 mmbtu/d. Midwestern is flowing at capacity into the Midwest demand center. Therefore, the receipts on Midwestern from REX is displacing the receipts from TGP, as the below graph shows. Such displacement means gas would have to stay on TGP to head to the south. This is another instance of how Marcellus production flowing westward on REX is pushing gas into the producing region.

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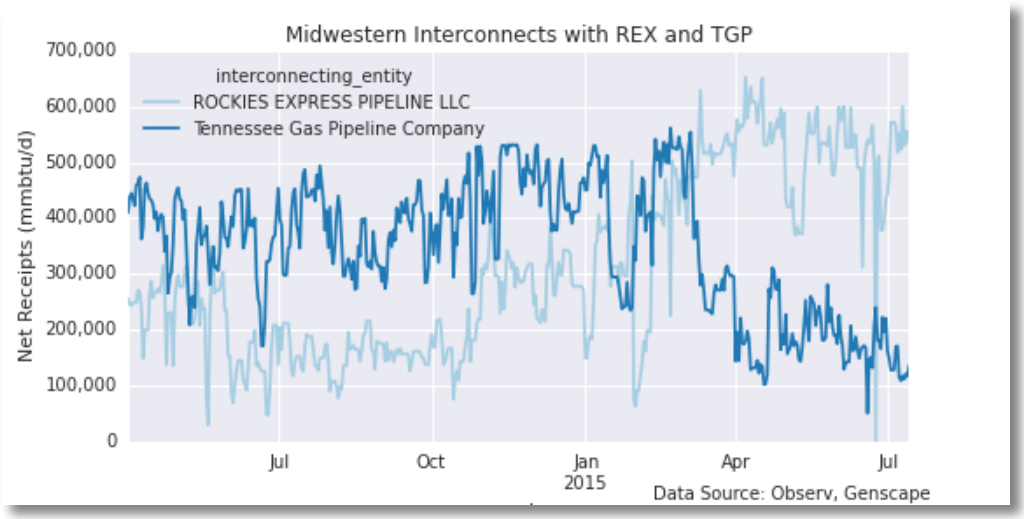

Last, there is REX's interconnect with ANR in Indiana. REX is anticipating the capacity for this interconnect to double to 1.2 bcf/d. The graph below shows how as ANR's receipts in Indiana has increased this summer compared to the previous summer. Gas is being pushed back into the Gulf resulting in net delivery in Louisiana this summer.

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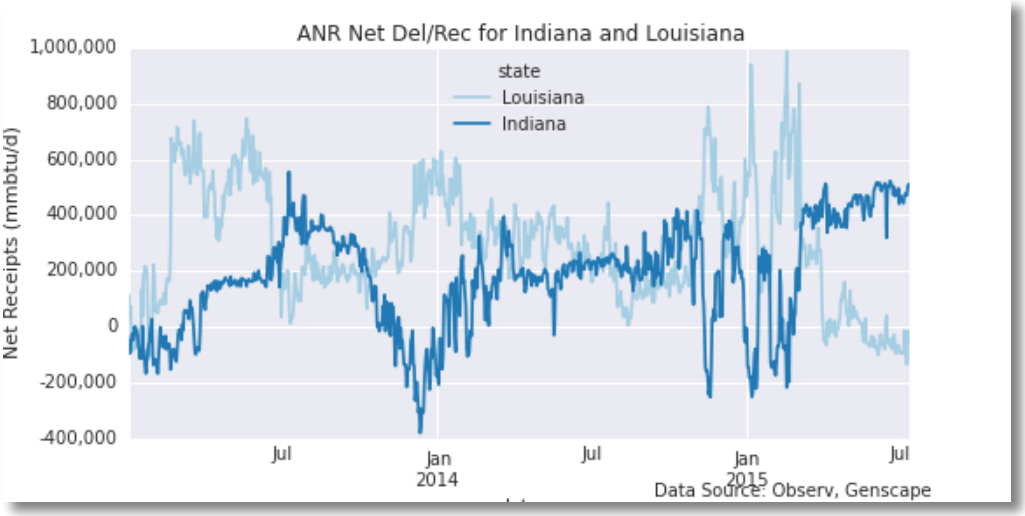
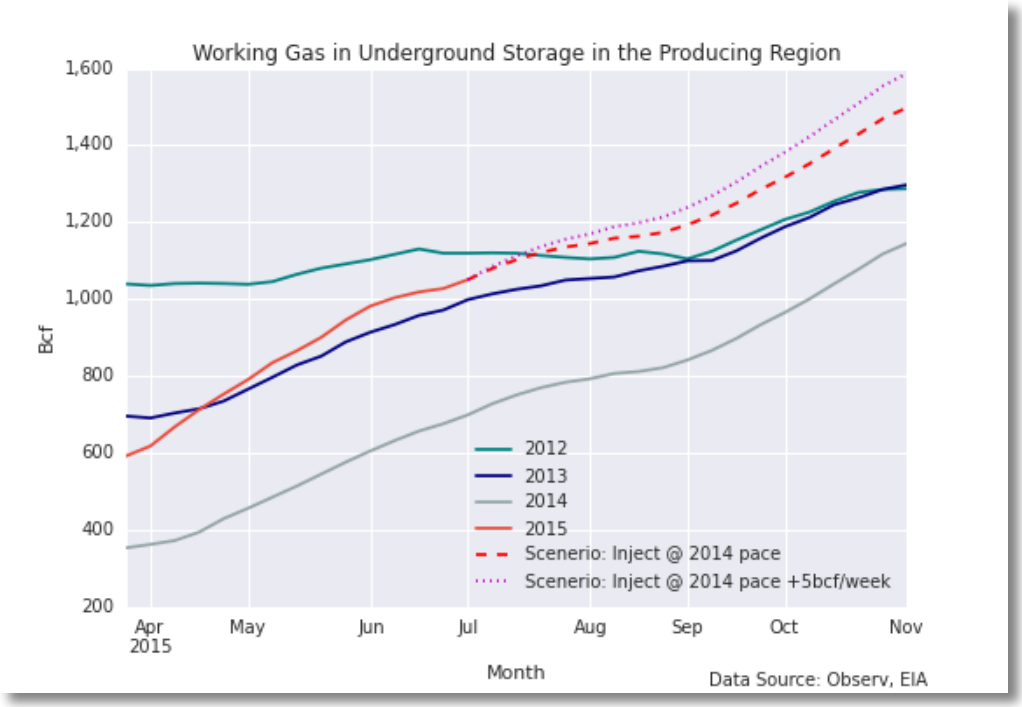


CONCLUSION

The analysis of the five pipelines is evidence on how the Marcellus production that REX shipped to the Midwest is offsetting Midwest's imports from the Gulf. In turn, Gulf production is going into storage. The injection rate in the producing region is much higher this year. If we were to inject at last year's pace from the current level, as the red dashed line in the below graph, storage in the producing region will hit very close to capacity. Let's check a more aggressive scenario, the purple dotted line in the graph: if the displacement by Marcellus production in the Midwest translate to 0.7bcf/d more in storage injection in the producing region, we would end up with 1,600 bcf of working gas underground in the producing region by the end of October. This represents significant downward pressure on Henry Hub cash.

Thus, futures for October are fundamentally weak.

The strong injection trend is applying significant downward pressure on Henry Hub cash. Such trend will likely continue for the rest of the summer with the rest of REX's expansion project coming online.



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