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I Saw Miles and Miles of Texas – Part 2

How Will Marcellus/Utica Natural Gas Surpluses Reach LNG/Mexico Export Markets?



- Favorable production economics will drive continued growth in Marcellus/Utica natural gas production; much of the new supply is targeting LNG and Mexico export markets along the Gulf Coast.
- Marcellus/Utica gas will be moved to the Gulf Coast on a number of pipeline projects, mostly reversals of pipes that traditionally moved gas north and east, but few of these projects get the gas all the way to LNG and Mexico export outlets.
- The Gulf Coast regional market faces challenges transporting gas to export facilities along the coast and the Rio Grande, in many cases across "Miles and Miles of Texas".
- It is not just a matter of distance. Several of these pipelines are "telescoped the wrong way" - that is, they get smaller as they get closer to new delivery points.
- Still another challenge to gas supplies targeting export markets is associated with the unique structural and regulatory aspects of the Texas natural gas market, which encompasses the largest intrastate pipeline system in the U.S.
- This report includes a detailed explanation of the differences between intrastate and interstate markets and the implications of those differences for natural gas flows across the state.

1. Introduction

Over the next three years, 16 pipeline projects are in the works to add more than 14 Bcf/d of new take-away capacity to move Marcellus/Utica natural gas to the south and west, relieving takeaway capacity constraints that have plagued the Northeast since 2012-13. This group of pipelines excludes those projects that would transport gas eastward into New England, some of which are facing regulatory obstacles and delays. Instead, projects in this group are progressing on their scheduled timelines, due in part because most are reversals of existing pipes, which minimize capital requirements and regulatory risk. Some of these projects will bring gas all the way down to states on the U.S. Gulf Coast. Others will move gas into markets that have been traditionally served by Gulf Coast supplies, displacing those volumes back into the Gulf region. Either way, significant volumes of gas are being pushed into two states that have historically been the most prolific U.S. sources of natural gas supply: Louisiana and Texas.

Isn't this a bit like bringing coal to Newcastle? What are Louisiana and Texas going to do with all that incremental gas supply? Some will be used to generate electricity, not only in Louisiana

and Texas, but in a few states where it will be dropped off along the way to the Gulf Coast. But most of the gas is targeted for exports into Mexico, where it will be used to generate power in that country, or it is intended for LNG exports to meet demand in Latin America, Europe and Asia. A few new natural gas export facilities have already come online over the past two years, including the first liquefaction trains at Cheniere Energy's Sabine Pass LNG terminal in Louisiana and, in Texas, NET Midstream's pipeline to Mexico; together, these facilities have ramped U.S. gas exports almost 2.0 Bcf/d over the past two years. Many more export facilities are being developed, including liquefaction/LNG export capacity at Sabine Pass, LA; Freeport, TX; Hackberry, LA; and Corpus Christi, TX, plus another half dozen new pipeline projects being built into Mexico connecting through Texas natural gas supply corridors.

Thus the gas supply is on its way to the Gulf Coast, and the facilities to export the gas are either in operation or under construction. But challenges remain for the U.S. Gulf natural gas market. Gas supplies moving into the region from the Northeast must be transported to those export facilities along the coast and to the Rio Grande, in many cases across "Miles and Miles of Texas". It is not just a matter of distance. Many of the gas pipelines in the region were originally built to move vast volumes of gas from traditional production areas in Texas, Louisiana and the offshore Gulf of Mexico to space-heating, power-generation and industrial demand centers in the U.S. Northeast and Midwest. For many decades, Texas's pipelines moved gas to these markets as they were intended, adding supplies as they moved to the north and east along the Gulf Coast, usually getting larger (both in terms of diameter and capacity) from the point of origination until the pipeline traversed all supply regions. This "telescoping" of the pipeline allowed a smaller pipe to be used at the pipeline's starting point, adding capacity as new supplies entered the system, usually with a big jump in diameter and capacity where large offshore supplies entered the pipelines from Texas to Alabama. Now, with the pipelines reversing to flow south and west, several of these pipelines are "telescoped the wrong way"—that is, they get smaller as they get closer to new delivery points at LNG export terminals along the Gulf Coast and at the Mexico border, thereby limiting capacity on those interstate systems to meet the new demand sources.

Still another challenge to gas supplies targeting overseas and Mexico export markets is associated with the unique structural and regulatory aspects of the Texas natural gas market, which encompasses the largest intrastate pipeline system in the U.S. Decades ago, the Texas intrastate system (pipelines that originate and end within the state) was built out to move Texas gas to Texas markets, while at the same time interstate pipeline systems (the large pipeline systems crossing state lines) were built to transport gas from Texas to large consuming markets in the Northeast, Midwest and West Coast. While these two systems were developed in parallel, they were intended to serve very different market needs, resulting in widely disparate physical designs and layouts. Even more significantly, intrastate and interstate pipelines were—and continue to be—subject to vastly different regulatory regimes. Interstate pipelines moving gas across state lines are regulated by the Federal Energy Regulatory Commission (FERC) subject to the Natural Gas Act, the Natural Gas Policy Act and various other federal statutes. In contrast, Texas intrastate pipelines are regulated by the Texas Railroad Commission (TRRC) as "common carriers" when transporting gas for others, and are considered a "public utility". (Interstate pipelines are considered contract carriers.) These differences have a wide range of regulatory implications for (a) allowable activities, (b) rates/prices, (c) transparency, and (d) permitting.

Consequently, the rules that apply to intrastate pipelines are quite different from FERC-regulated pipelines, which has both advantages and disadvantages for the natural gas supplies that must flow across the state. In fact, all of the Marcellus/Utica volumes coming into Texas will be moving in on interstate pipelines, while much of the most flexible capacity in Texas is on intrastate pipelines. The big question is—how will these systems work together to deliver inbound gas flows to export markets?

In this Part 2 of our Drill Down Report on the challenges of moving Marcellus/Utica gas to Gulf Coast export markets, we examine the new projects destined to increase natural gas demand for export markets, the pipeline projects necessary to move inbound flows of Marcellus/Utica gas to those markets, and the challenges facing natural gas supplies that must traverse Miles and Miles of Texas. This report includes a detailed explanation of the differences between intrastate and interstate markets and the implications of those differences for natural gas flows across the state.

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