

Gas Processing Primer
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## **Upstream, Midstream, & Downstream**

## Oil & Gas Industry

- ◆Upstream: The exploration and production portions of the oil and gas industry
- ◆Midstream: Industry activities that fall between exploration and production (upstream) and refining and marketing (downstream); the term is most often applied to processing and pipeline transportation of crude oil, natural gas, and NGLs
- Downstream: Refineries, chemical plants, and their associated distribution and marketing



## Shale Plays in the Lower 48 States

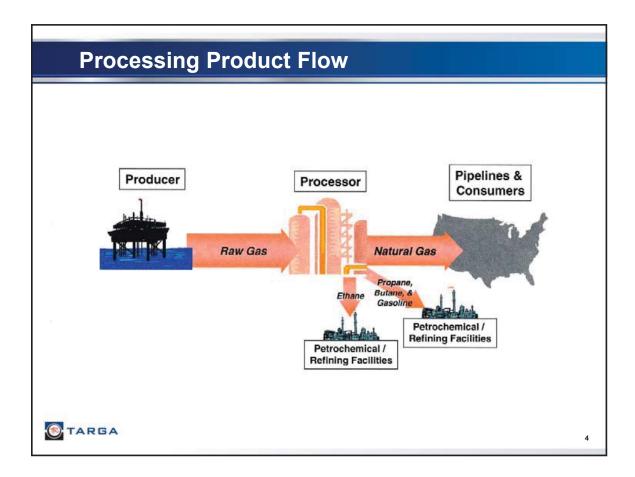
- Increasing production from shale continues to be a game-changer in the U.S.
- Producers are currently focused on oil and liquidsrich plays, with increasing volumes from the Permian Basin, Bakken shale and Barnett combo.





Source: EIA

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## Gas Processing is...

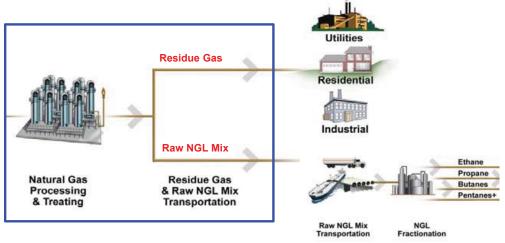
- ◆The extraction of imbedded NGLs and the removal of water vapor and other contaminants (i.e. sulfur and carbon dioxide) to form (i) a stream of marketable natural gas, commonly referred to as residue gas, and (ii) a stream of mixed NGLs.
- ◆Once processed, the *residue gas* is transported to markets through pipelines that are owned by either the gatherers and processors or third parties.
- ◆After being extracted in the field, *mixed NGLs* are typically transported to a centralized facility for fractionation where they are separated into discrete NGL products: ethane, propane, normal butane, iso-butane, and natural gas.



Source: TargaResources.com; Gathering & Processing Division

**Gas Plants** 

Separate the residue gas (methane) from the raw NGL mix (also called Y-grade, raw make, and NGLs)





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