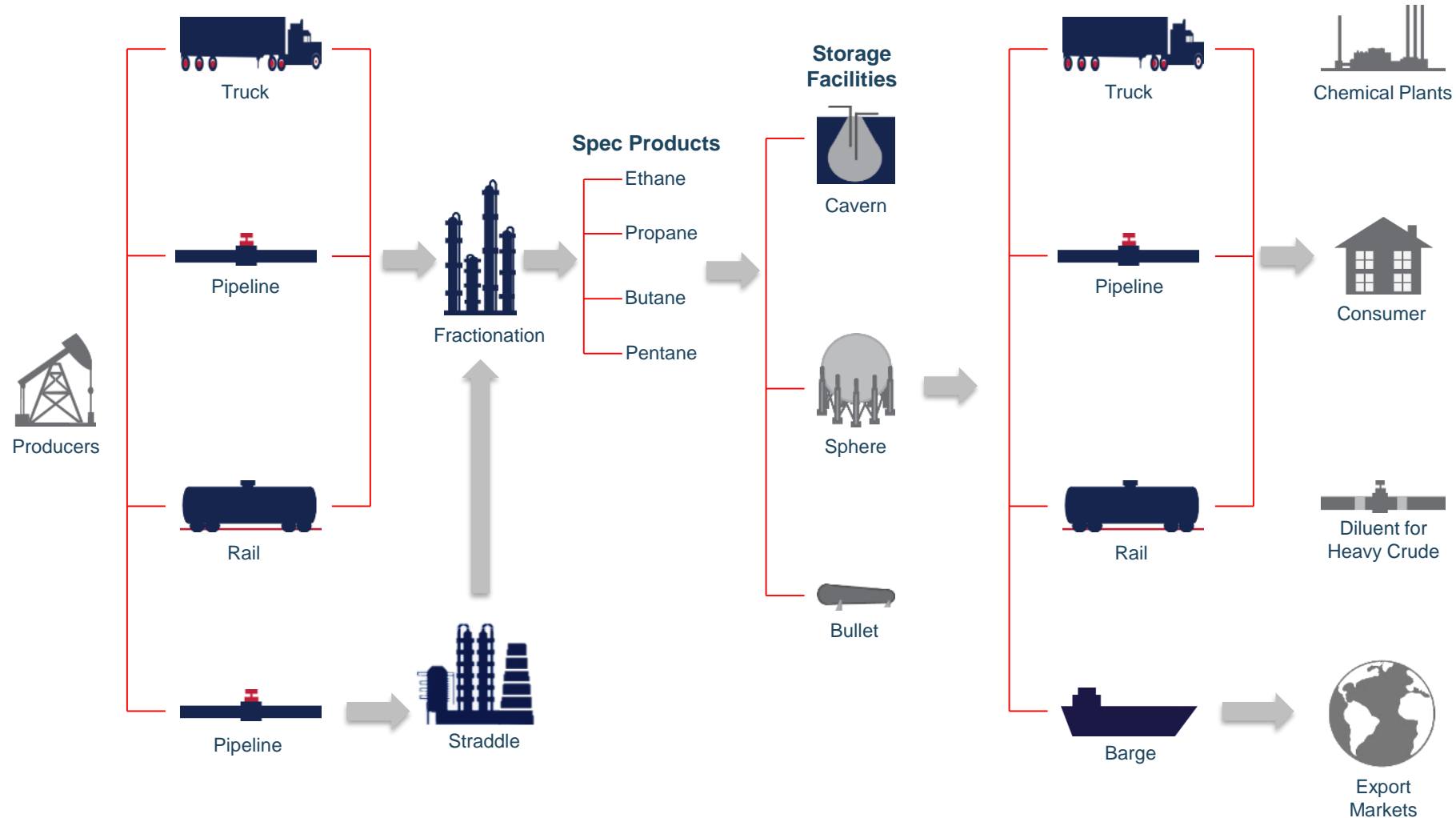


Michigan and Plains – Propane Overview

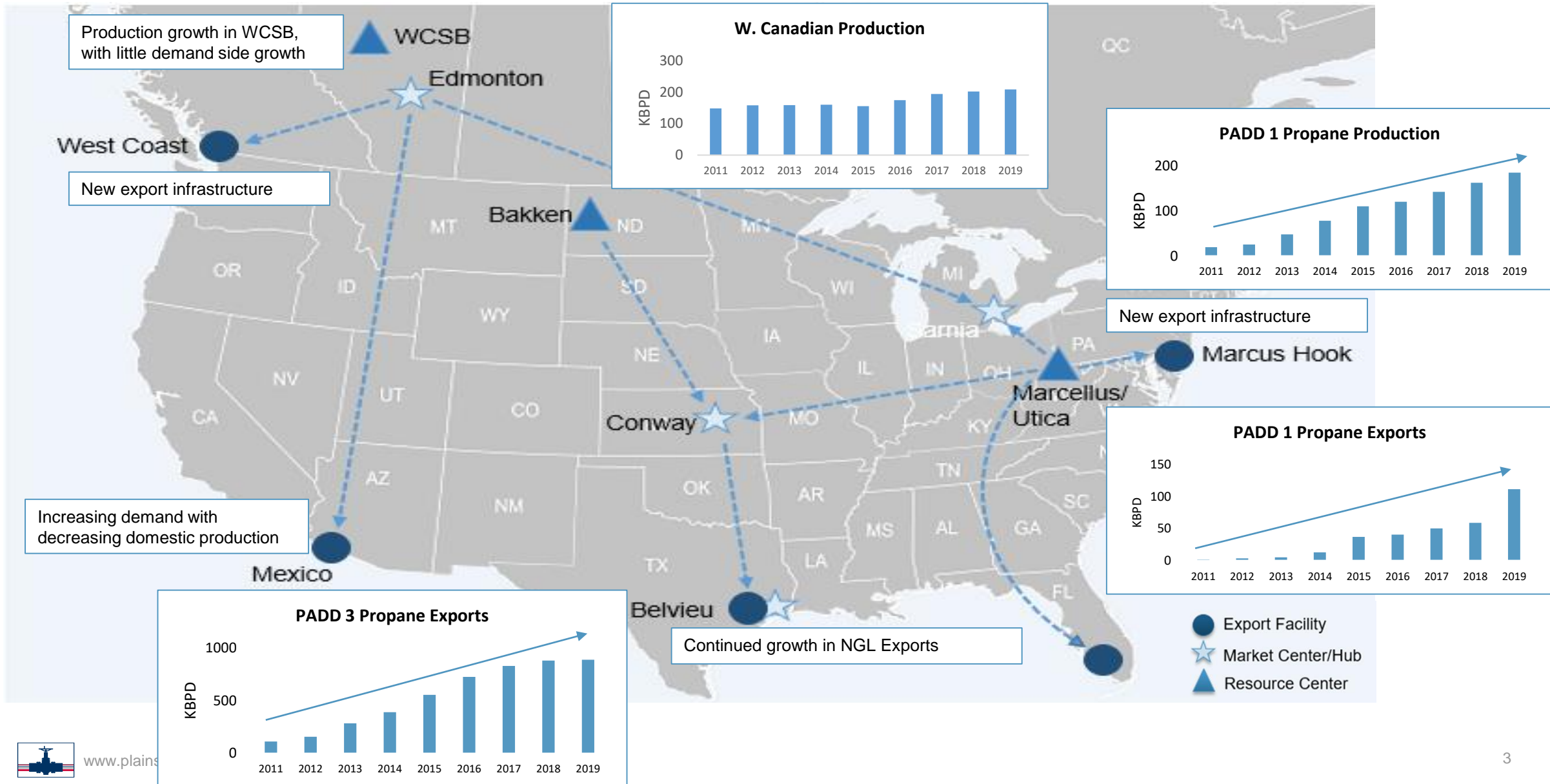
September, 2019



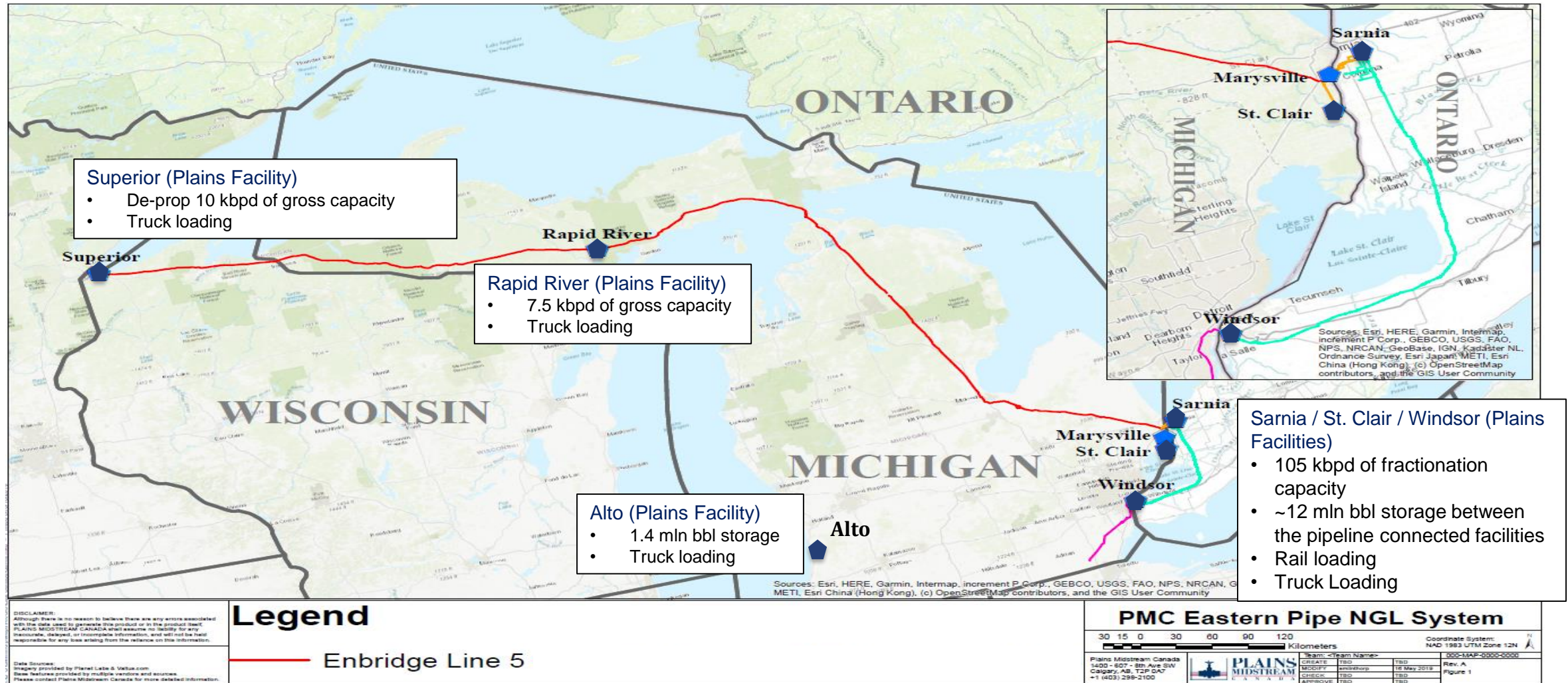
Overview: NGL Production to Market



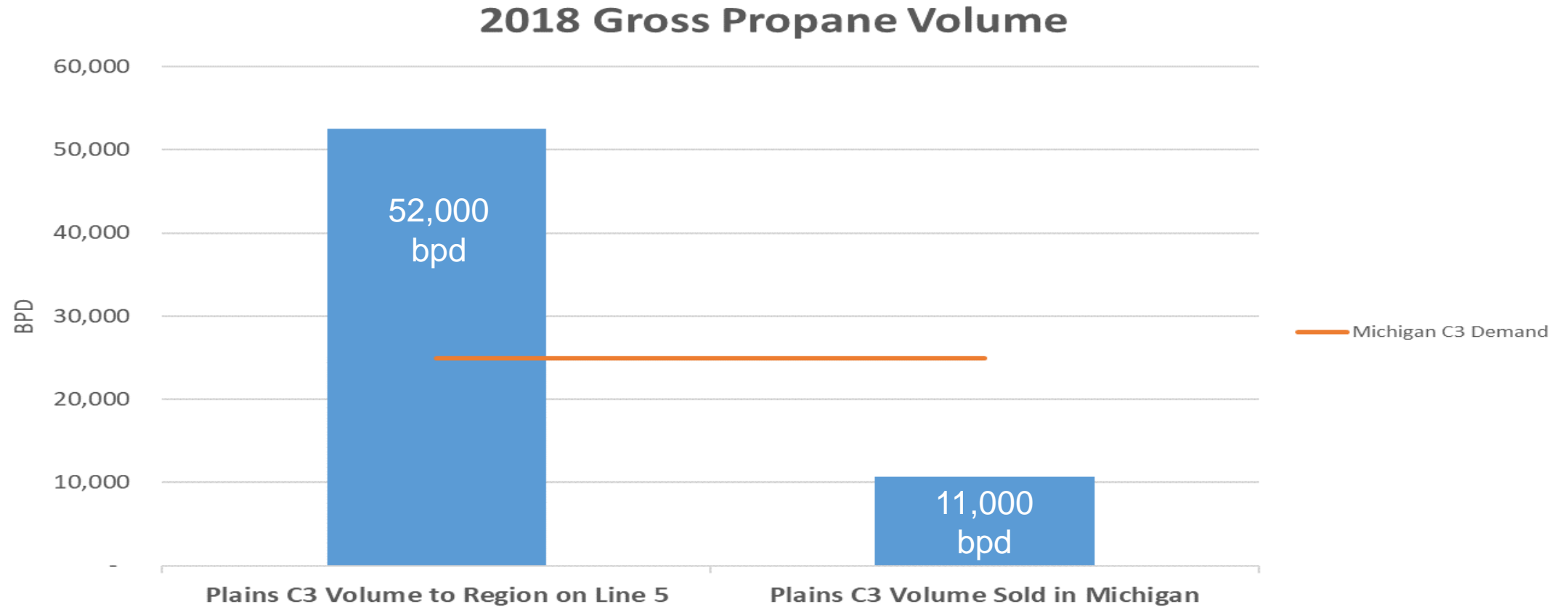
North America: NGL Fundamentals Overview



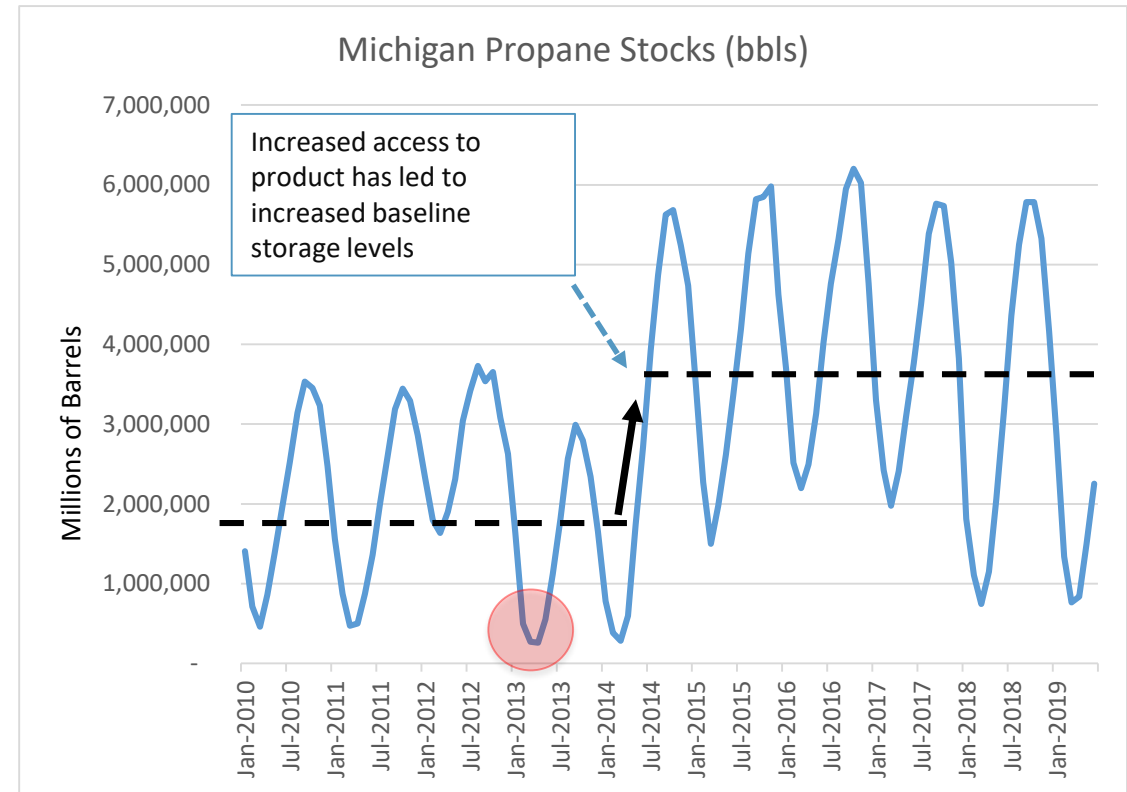
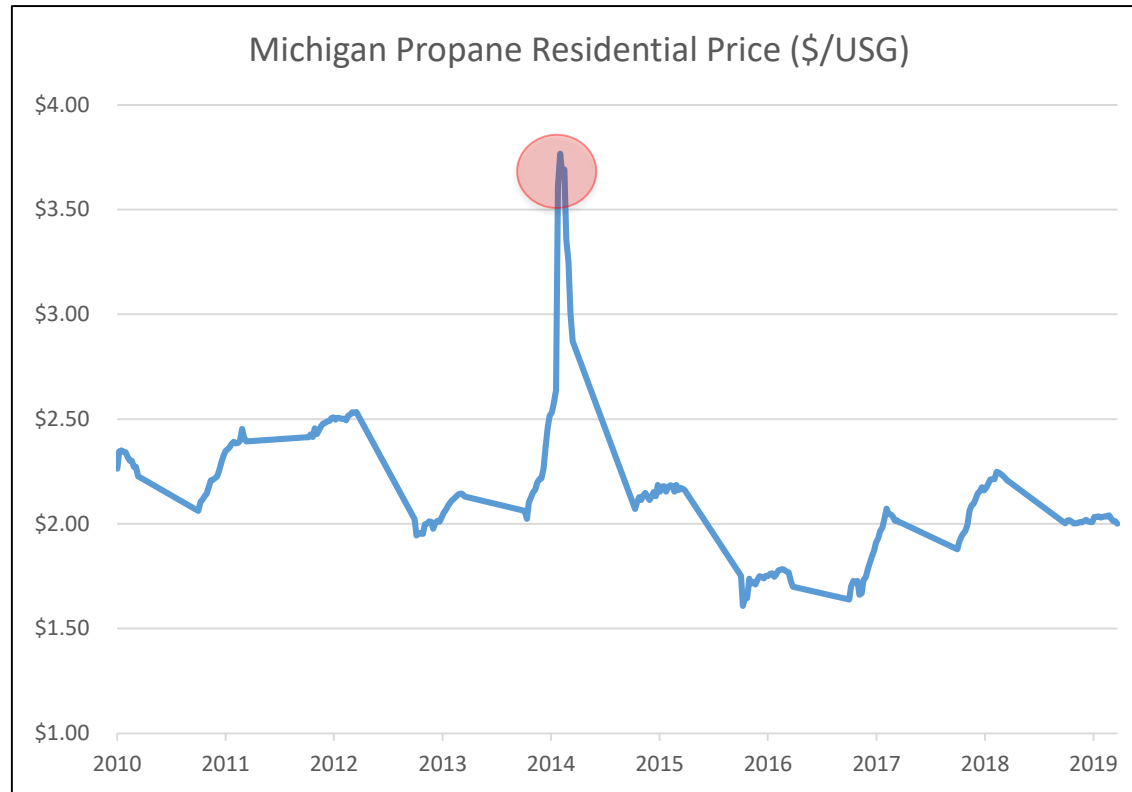
Michigan: Plains Role in Propane Movements



Plains: Our Supply to the East and Michigan



Michigan: Propane Prices vs. Storage



- Winter 2014 polar vortex resulted in a shortage of propane in Michigan causing prices to rise (combined with low inventories).
- Increased access to product has led to increased baseline storage levels and more muted price spikes
- Average demand in Michigan is **~9.5 mmbbls**, with storage draw over the winter season accounting for 4.0-5.0 mmbbl
- Storage additions would aid in eliminating troughs but would not likely be enough to displace supply from Line 5



Pipeline Outage Implications

Potential Result

Plains cannot access pipe to supply Michigan demand for propane

Unrateable product supply could lead to shortages in the winter

Increased levels of rail traffic affecting reliability of service and results in potential safety implications

Cause/Effect

Potential rail from other locations which could cause consumer prices to increase

Requires larger storage levels to mitigate troughs

Potential socioeconomic impacts + higher probability of supply outages

Potential Costs

Could result in higher propane prices due to railed in product having higher associated costs

Could be substantial costs for capital build-out and ongoing maintenance, or ongoing lease storage costs

