

The Permian Outlook

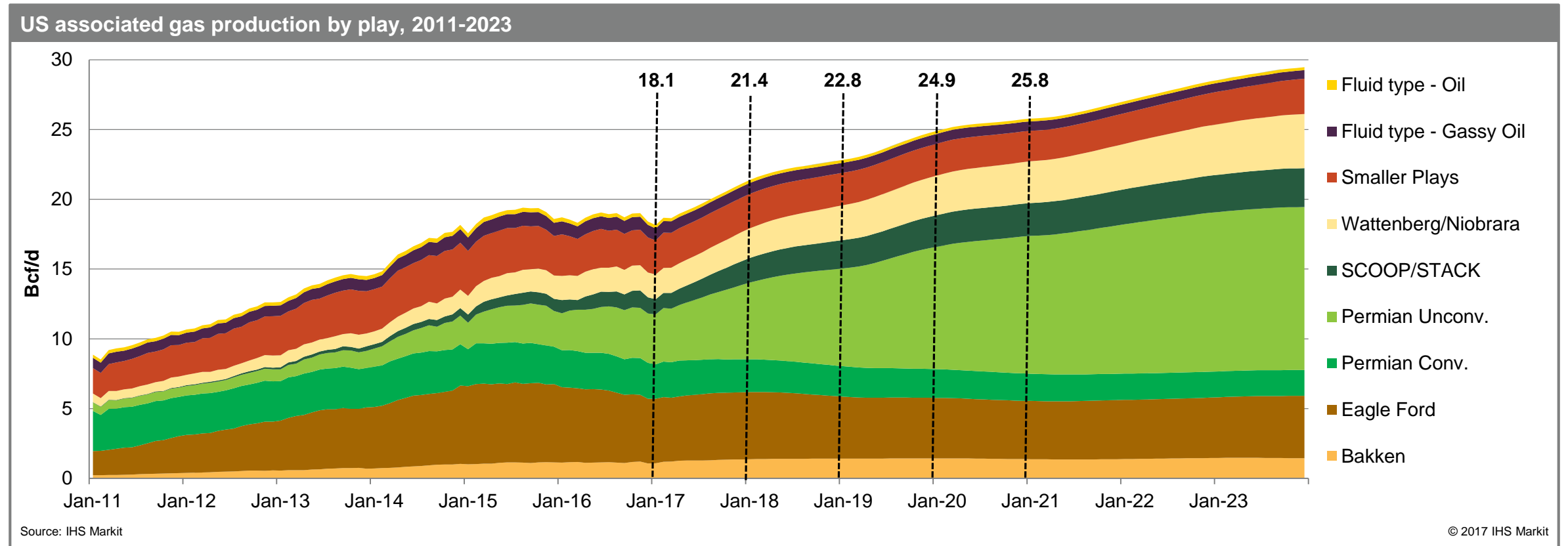
For the 2018 Gas/Electric Partnership Conference

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Associated gas production is dictated by the fortunes of oil, not Henry Hub pricing; outlooks at \$55 WTI

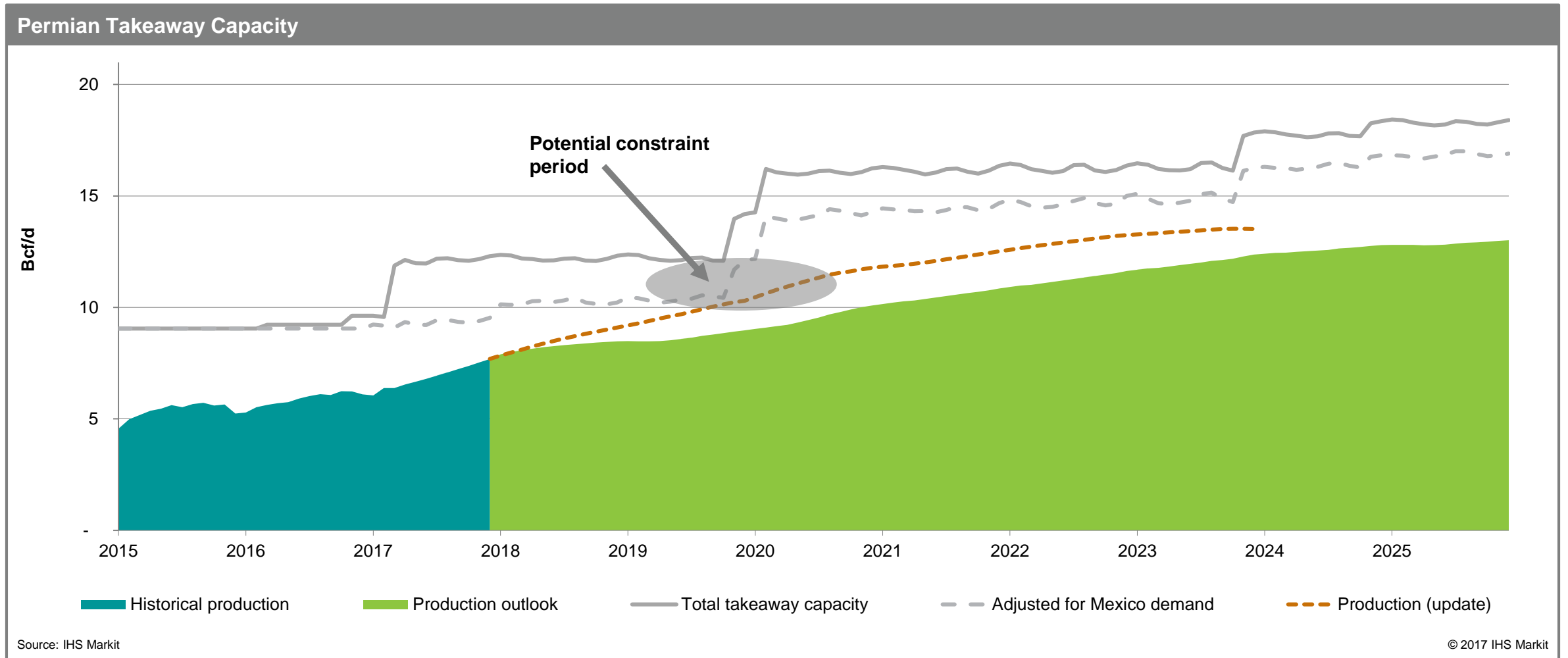


- Even under a long-term price outlook of \$55/bbl WTI, associated gas production growth remains formidable, increasing from an average 22.2bcf/d in 2018 to 29.1bcf/d in 2023. In a higher price scenario envisaging **WTI reaching \$70/bbl by 2023, associated gas supply rises by a further 4.0-5.0bcf/d over the same period.**
- Owing to their limited geographic expanse, SCOOP and STACK play output register only modest growth despite high gas content in their production streams.
- Eagle Ford associated gas production remains near current levels of 4.7bcf/d due to drilling activity remaining concentrated in liquids-prone acreage

Proposed Permian gas pipeline infrastructure

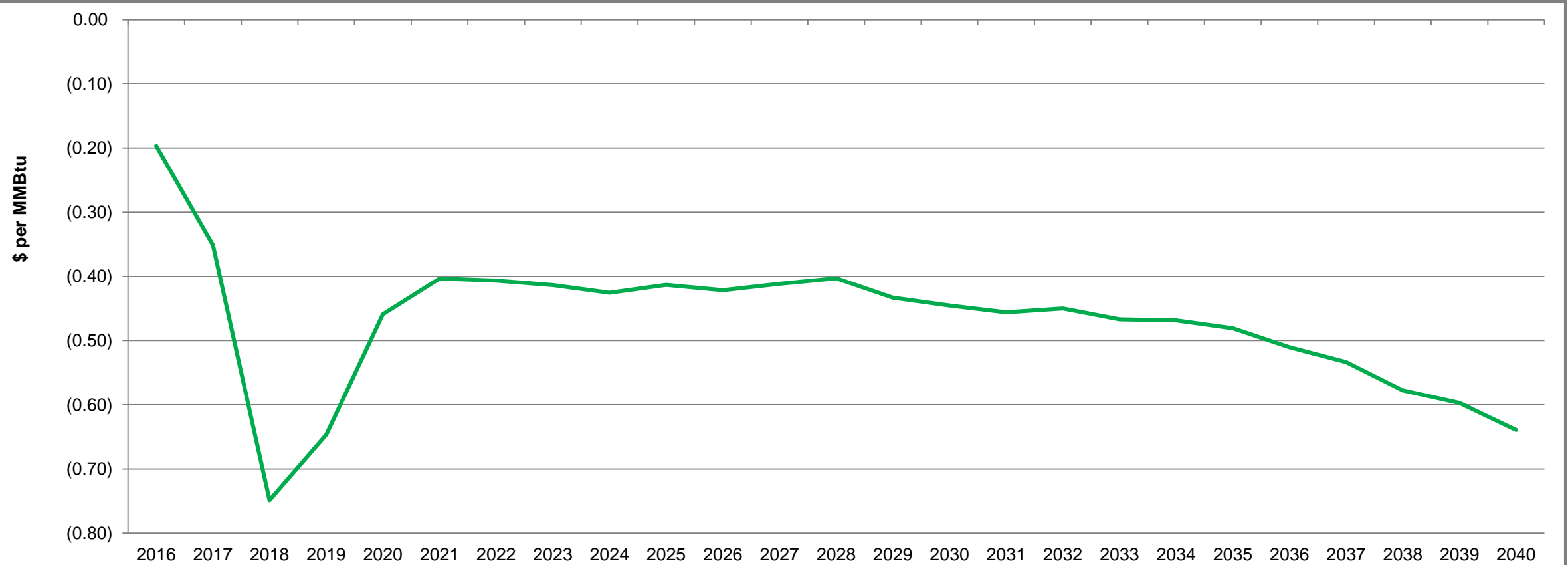
Project	Sponsors	Status	In-service date	Capacity (Bcf/d)	Destination market
Permian takeaway					
Gulf Coast Express Pipeline	Kinder Morgan/ DCP Midstream/ Targa Resources	Reached FID	H2 2019	1.92	Aqua Dulce/Gulf Coast
Permian-Katy Pipeline	Sempra Energy/ Boardwalk Pipeline Partners	Non-binding open season	Dec 2019	1.5 – 2.0	Katy
Pecos Trail Pipeline	NAmerico Partners	Planned	2019	1.85	Corpus Christi/Gulf Coast
Intra Basin					
Agua Blanca	WhiteWater Midstream	Under Construction	Q4 2017	1.25	Waha
El Paso Permian Expansion	Kinder Morgan	Proposed	N/A	0.9	Waha

Permian natural gas takeaway capacity will likely become constrained by the end of the decade, until pipes on the Mexican side, then the US side are built



Permian producers are behind increasing takeaway capacity constraints until late 2019, when new pipe and growing Mexico demand (and pipe) come into play

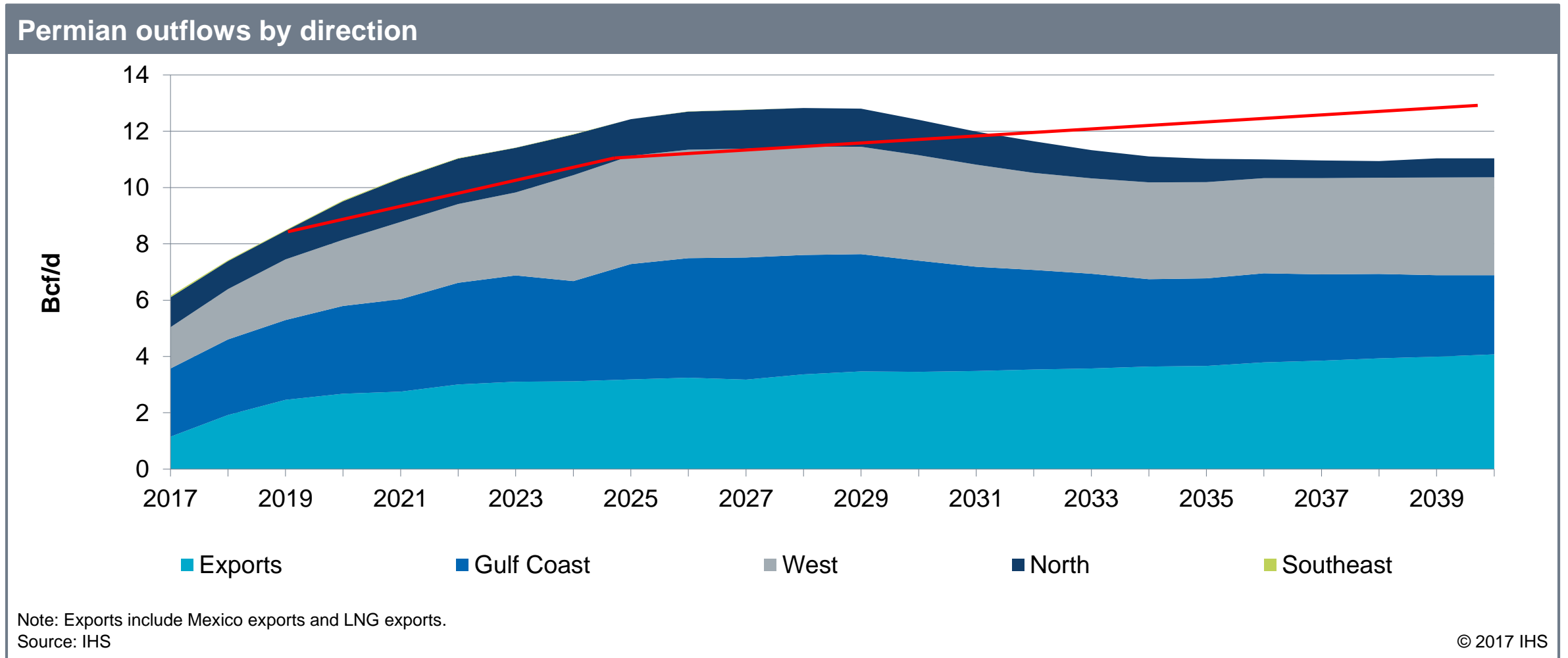
El Paso Permian Basis Outlook



Source: IHS Markit

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Where does the gas go?



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