Electrifying the Permian Basin Initiative

PRESENTATION FOR ERCOT’S REGIONAL PLANNING GROUP

FEBRUARY 15, 2022
Antitrust Reminder

Meeting participants are reminded that during, before and after meetings, there shall be no discussion of competitively sensitive information, including but not limited to: prices, costs, customers, output or production, commercial plans, or any other discussion that could be viewed as restraining competition between the participants or limiting any company from free access to any market, customer or vendor.

Discussion should be limited to agenda items only. Any questions about the propriety of a discussion item should be raised immediately and should be addressed with caution. When in doubt, participants should defer discussion about potentially sensitive items until after review by their respective legal counsel.

Your participation in this meeting is acknowledgement of your agreement with the above.
Introducing the Permian Electrification Initiative

Warwick King, VP Low Carbon Technologies

Initiative Overview

Major Permian oil & gas operators have all determined the need for a consolidated power demand estimate reflecting an increased need and pace for equipment electrification.

This estimate can help transmission/distribution service providers, ERCOT (TX), and SPP (NM) plan subsequent grid development to meet that demand.

Data Analysis

Facilitator

IHS Markit

Partners in Performance
While the Permian has been producing for 100 years, the unconventional horizon is just starting. Production has rebounded post COVID, and strong growth is expected over the next decade, concentrated in the Delaware and Midland Basins.

Permian Basin holds key advantages over other US basins: low break-even prices, elimination of regional pipeline bottlenecks, and significant untapped resources.

Electrification is viewed as a key source of emissions reduction, but there’s a need to align planning horizons between O&G companies, who anticipate demand needs 1-2 years out, and transmission providers, who have longer planning cycles.

Permian Basin will continue to be the most prolific oil producing area in the US.
Electrification is critical to make the Permian Basin more sustainable

In April 2020, IHS Markit completed a study of the Permian Basin’s future load requirements for Oncor Electric, finding:

Permian Basin electrical usage rose sharply since 2016, and strong load demand will continue to grow through 2030

- ~70% increase in industrial power usage from 2016 - 2019*, from <2,000 MW to 3,400 MW
- Projected ~100% increase from 2019 - 2030, from 5,160 MW to 10,180 MW

ERCOT is already using the IHS Oncor study to make grid investment decisions

However, many factors have changed:

- Operators are adopting firm electrification strategies as a mechanism for reducing emissions.
- Price per barrel has made a strong post-COVID recovery ($80-90 dollars a barrel), accelerating drilling activities
- Regional competition from other industrials is increasing (cryptocurrency farms*)
- Several stakeholders are projecting that their demand will be higher and pace quicker than IHS-M’s original estimate, which is being revised in this study to further support grid investment planning

*Source: EIA Drilling Productivity Report, Bloomberg: Texas Plans to Become the Bitcoin Capital, Vulnerable Power Grid and All (bloombergquint.com)
IHS-Markit is updating their April 2020 demand forecast, using input from the Permian’s largest operators.

**Scope of Work**

1. **Production Forecast**
   - Forecast development plan
   - Short-term Forecast (5yr)
   - Long-term Outlook (2040)

2. **Power Required**
   - Upstream power required
   - Midstream power required
   - Preferred power source (electric grid vs. other)

3. **Interviews**
   - Operations
   - Power selection
   - Grid access
   - Future strategies

4. **Load Forecast**
   - Power demand forecast
   - Electric grid load forecast
   - Business as usual
   - Energy transition

5. **Grid Maps**
   - Area grid maps
   - Maps of underlying acreage quality
   - Maps of increasing power demand

**Sponsor Companies**

- Validate production forecast provided by IHSM

**Deliverable to be provided to the sponsor companies**

- Power demand forecast by basin
- Electrical grid forecast
- Grid maps (Size to be agreed)
- No operator-level production or drilling forecast will be published in the final report

**Facilitator**

- Partners in Performance
We’d like to coordinate with you moving forward

1. Indicate interest
   - We would like your input into this initiative, and relevant points of contact (POC)
   - Send a note to Rachel.Paulk@pip.global

   Requested by: 25 February 2022

2. Meet w/O&G Participants
   - Discuss Permian Electrification Initiative w/participating oil & gas companies
   - Option to present to the group
   - March 10th at ConocoPhillips Headquarters

   Initiative Touchpoint: March 10, 2022

3. Review Study Deliverables
   - Anticipate sharing study deliverables in mid-April
   - Understand barriers to higher degree of electrification
   - Prioritize focus areas and strategies
   - Will schedule time to discuss any questions or comments
   - Exact scheduling to follow

   Deliverable Discussion: ~April 20, 2022