

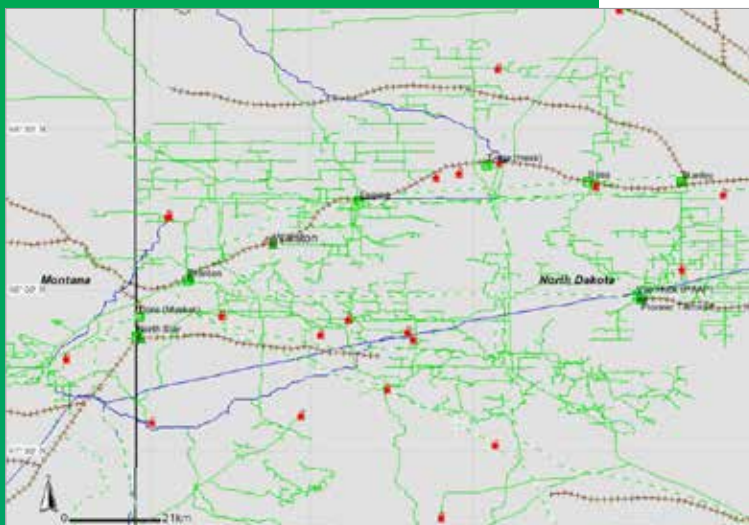


IHS Markit™

United States Pipeline and Facilities Data

Comprehensive infrastructure data for
prospect screening and project development

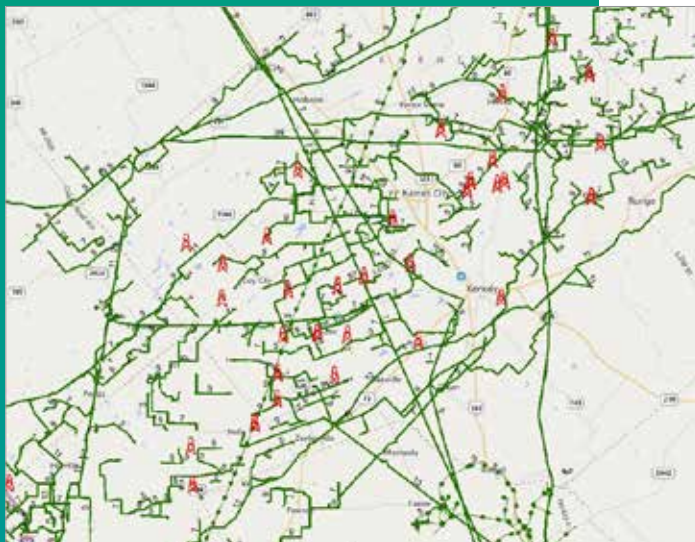
IHS Markit is the leading provider of oil and gas exploration and production information worldwide. The addition of the United States pipeline data completes the Energy Infrastructure and Markets Database offering, providing a comprehensive set of transportation, processing and market data all along the oil and gas chain globally. The combination of IHS Markit US well and production data with the IHS Markit US midstream pipeline and facilities data enables clients to answer key questions impacting their project's economic viability and development options, as well as identify infrastructure investment opportunities.



Bakken Play Oil Infrastructure - Crude Oil & NGL Pipelines, Rail Terminals, Refineries and Gas Plants



Marcellus Play Gas Pipelines - Mapped in Enerdeq Browser along with Drilling Permits (IHS Markit E&P data)



Eagleford Play Oil Pipelines - Diameters Displayed in Enerdeq Browser with Drilling Activity (IHS Markit E&P Data)

Pipeline access has become a critical factor to the profitability of exploration and production projects in the United States, and in particular, high profile concerns to unconventional oil and gas resource development. Many new oil and gas plays are in remote areas historically with limited local market requirements. Thus the distance to the transport network and which markets can be accessed via this network are often “make or break” project variables.

More recently, the demand for increased capacity to transport crude to new markets quickly and economically and pipeline capacity unable to meet such demand has led to the evolution of the crude by rail market.

Current crude by rail capacity, future infrastructure development are some of the critical information required to seamlessly move crude oil from the well head to end users like refineries

In addition, access to processing facilities, gas plants, LNG liquefaction and refineries, also can be important considerations. “Wet” natural gas with high liquids content necessitates processing prior to injection into most US gas transmission systems. The availability of suitable refining infrastructure and associated transport access options must be evaluated for oil field development plans, particularly for the heavier and high sulfur production.

The IHS Markit US pipeline and facilities data can be viewed in tandem with the IHS Markit US well and production data. By comparing current drilling activity, recent completions and permits with the existing pipeline infrastructure, opportunities for investment in pipelines and associated infrastructure can be easily identified.

The data is available in standard spatial layer format, in Enerdeq Browser and in EDIN.

With the IHS Markit United States oil and gas pipeline and facilities data you can address:

- How far is my well or drilling prospect from oil and gas pipeline infrastructure?
- What is the size of the pipeline, and who is the operator?
- How is it interconnected with the primary oil and gas transmission network?
- Is there a need to build a gas processing plant or construct a pipeline to process or transport oil/gas?
- Where are the refineries and how can they be accessed?
- Where are the opportunities to invest in oil and gas projects?
- How to rank prospects considering infrastructure investment as well as oil and gas resource potential?
- How are my competitors positioned on the oil and gas chain?

The IHS Markit United States oil and gas pipeline and facilities data provides critical business decision support for the following industry segments:

- **New Ventures Screening** – The presence of a pipeline network and access to processing facilities such as gas plants and refineries can be readily identified and mapped to provide the basis for the assessment of the additional infrastructure investment that would be needed to commercialize a prospect.
- **Field Development** – Once a prospect enters the development phase, potential markets for gas production in the power, petrochemical and industrial sectors can be identified by facility location, size and operating company.
- **Midstream Company Business Development** – As the pipelines and facilities data can be displayed in tandem with E&P well and drilling activity data, the opportunities to invest in pipeline and processing facilities can be identified by specific area.
- **Competitor Intelligence** – IHS Markit’s extensive company ownership enables a client to examine a competitor’s position globally as well as in a target market. The data on projects and their status provide a forward view as well.

Modules available in the Energy Infrastructure and Markets Database suite of products include:

Major Industrial Plant Database – MIPD® Detailed energy consumption data by US plant including gas, electricity and steam usage, cogeneration percentage, fuel usage by type (boiler, furnace or feedstock) and plant location and contact details.

Oil Midstream Database – Detailed refinery processing capacity and production capability by product worldwide including a complete inventory of new projects and IHS Markit Outlook of which will come to fruition and when.

Global Gas and Power – Natural gas and power infrastructure including pipelines, storage, gas plants, LNG, gas contracts, primary petrochemicals and power generation facilities for all fuel types.

Data Content Summary

Common Data for all Facilities:

- Plant name
- Country, political province, city
- Geographical coordinates
- Owner/operator
- Unit Name:
 - Capacity
 - Operating status
 - On-line year

Additional Attributes

Pipeline Attributes:

- Content
 - Natural Gas
 - Crude Oil
 - Refined products
 - Liquefied Petroleum Gas (LPG)
 - Natural Gas liquids (NGL)
 - Carbon Dioxide (CO₂)
 - Petrochemicals
- System and Subsystem Names
- System Type
 - Transmission
 - Gathering
- Pipe Diameter
- Interstate or Intrastate
- Flow Direction

Compressor and Pumping Stations:

- Locations & Status only

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Oil and Gas Storage Facilities:

- Fluid type
- Storage type
- Maximum working gas volume
- Total gas volume
- Total liquid volume
- Withdrawal/Injection capacity
- Number of wells or caverns
- Installed compressor power
- Max & min pressure
- Project milestones

Ports:

- Berths
- Type of service
- Depth, Length
- Draught, Dead Weight

Floating Production Storage & Offloading (FPSO):

- Field name
- Construction type (new or converted)
- Mooring type

Gas Processing Plants:

- Gas intake capacity
- NGL production capacity
- Plant type (treatment, fractionation etc.)
- Gas plant production
- Project milestones

LNG Liquefaction & Re-gasification plants:

- LNG production capacity
- Gas send-out capacity
- Technology
- Storage capacity
- Number of storage tanks
- Capacity holders & capacity shares
- Project milestones

Refineries:

- Capacity (bpd and tons/year)
 - Crude/Vacuum distillation
 - Reforming
 - Catalytic Cracking
 - Coking
 - Visbreaking
 - Hydro treating
 - Alkylolation
 - MTBE/ETBE
 - TAME
 - Lubes/Asphalt
 - Hydrogen
 - Sulfur
- Complexity factor

Biofuels/Synfuels:

- Type
- Intake capacity
- Production capacity
 - Ethanol
 - Diesel
 - Naphtha
 - LPG
 - Other products
 - Total products

Electrical Plants:

- Plant type, Unit type
- Capacity (Operating, Planned, Under Construction)
 - plant and units
- Fuel type
- Project milestones

Methanol Ammonia & Urea Fertilizer:

- Product output capacity

Olefin Plants:

- Ethylene production capacity
- Feedstock usage by type (percentage)

Other Large Industrial Plants:

- Plant type

Gas Contracts & Distribution Structures:

- LNG supply profile
 - Supplier & Buyer
 - Contract status
 - Contract duration
 - Contract volume
 - Contract plants

Terminals:

- Terminal type (rail)
- Function (Loading, Receiving)
- Content – crude oil
- Transport company

For more information, contact our IHS Midstream Experts

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About IHS Markit

IHS Markit (Nasdaq: INFO) is a world leader in critical information, analytics and solutions for the major industries and markets that drive economies worldwide. The company delivers next-generation information, analytics and solutions to customers in business, finance and government, improving their operational efficiency and providing deep insights that lead to well-informed, confident decisions. IHS Markit has more than 50,000 key business and government customers, including 85 percent of the Fortune Global 500 and the world's leading financial institutions. Headquartered in London, IHS Markit is committed to sustainable, profitable growth.