Energy Infrastructure and Markets Database: Midstream Essentials

Comprehensive transportation, processing and markets infrastructure data for prospect screening and project development

For stakeholders all along the energy chain from the wellhead through to the end-user, a firm understanding of infrastructure issues has become a key component to success. IHS’s Midstream Essentials provides the critical information needed to insure that there are no missing links in our clients’ operating decisions and business plans.
For the E&P sector, the investment required in transportation and processing facilities necessary to monetize production can greatly impact project economics and the ranking of prospects. Also many countries with the greatest resource potential have regulations which require that the local economy’s fuel needs are prioritized over the typically more lucrative export market. Thus it is important to know the current industrial base and to be able to track new projects under development and their current timetable for implementation.

For the gas and power segment, pipeline, LNG and storage infrastructures are key elements to fuel selection and supply planning decisions. With the development of a merchant LNG market, global gas supply developments now impact regional markets that previously were disconnected.

Thus the pace of LNG project developments in Asia and Australia influences the Atlantic basin gas market outlook, and likewise, US shale gas availability impacts Chinese LNG price negotiations. Gas sector liberalization in many countries has increased the alternatives available and magnified their potential impact on profitability. To remain competitive and grow companies must look to new markets. Thus a global perspective has become an essential element to business planning.

Any meaningful analysis of oil and gas infrastructure issues must be made in tandem with broader upstream developments, including exploration and production (E&P) activity and political risk factors. As the top provider of E&P data worldwide, IHS offers a comprehensive Energy infrastructure and Markets Database: Midstream Essentials Module that is fully integrated with our upstream data, GIS and analytical products.

**Midstream Essentials provides decision support for:**

- **New ventures screening** – The presence of a pipeline network adjacent to a prospect can be readily identified, mapped and its capacity quantified. The likely ease of access to processing facilities including FPSO’s, gas plants, LNG liquefaction and refineries can be assessed. Thus additional investment in infrastructure to monetize production and the potential impact on project economics can be scoped.

- **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.

- **Gas and power market strategies** – The database affords an integrated view of gas supply sources, transport options and power generation facilities by fuel type, not only today, but also the likely evolution considering new projects. LNG and gas pipeline contract details are captured providing key data to identify opportunities for gas marketers. The underground gas storage facility information is key to supply planning to accommodate seasonal demand fluctuations and to capitalize on price arbitrages.

- **Competitor Intelligence** – IHS’s extensive company ownership database enables a client to examine a competitor’s position globally as well as in a target market all along the energy chain. The data on projects and their status provide a forward view as well. Likewise, potential partners or clients for infrastructure projects can be identified.
Data Content Summary
Common Data for all Facilities

- Plant name
- Country, political province, city
- Geographical co-ordinates
- Owner/operator
- Unit name:
  - Capacity
  - Operating status
  - On-line year
  - Capital costs

Additional attributes:

Pipelines:
- Type
- Content
- Route co-ordinates
- Total length
- Segments:
  - Start node
  - End node
  - Number of loops
  - Length
  - Diameter
  - Reported capacity
  - Estimated capacity
  - Situation (above ground/underground, onshore/offshore)
  - Commission date
  - Remarks (text)

Pipeline utilisation rates:
- Time period
- Segment(s) start node
- Segment(s) end node
- Throughput

Tariffs:
- Time period
- Segment(s) start node
- Segment(s) end node
- Tariff rate

Compressor and Pumping Stations:
- Location
- Type
- Capacity
- Horsepower
- Input and output pressure

Oil and Gas Storage Facilities:
- Fluid type
- Storage type
- Maximum working gas volume
- Cushion gas volume
- Total gas volume
- Total liquid volume
- Withdrawal capacity:
  - Minimum
  - Maximum
- Injection capacity:
  - Minimum
  - Maximum
- Number of wells or caverns
- Field name
- Installed compressor power
- Pressure:
  - Minimum
  - Maximum

Floating Production Storage & Offloading (FPSO):
- Field name
- Port name
- Construction type (new or converted)
- Mooring Type
- Deadweight tonnage
- Depth
- Length
- Oil production maximum
- Oil storage capacity
- Gas processing capacity
- Gas injection capacity

Gas Processing Plants:
- Gas intake capacity
- Production capacity:
  - Ethane
  - Propane
  - Normal butane
  - Iso-butane
  - Mixed butanes
  - Natural gasoline
  - C5+
  - Condensate
  - LPG
  - NGL
  - Total

LNG Liquefaction Plants:
- Annual LNG production capacity
- Number of trains
- Storage:
  - Volume
  - Number of tanks

LNG Re-gasification Plants:
- Capacity:
  - Natural gas send-out – average daily
  - Natural gas send-out – maximum daily
- Number of vaporizers
- Storage:
  - Volume
  - Number of tanks

Refineries:
- Capacity (bpd and tons/year):
  - Crude distillation
  - Vacuum distillation
  - Reforming
  - Catalytic cracking
  - Hydrocracking
  - Coking
  - Thermal cracking
  - Visbreaking
  - Hydrotreating
  - Alkylation
  - Isomerization
  - Polymerization
  - MTBE
  - ETBE
  - TAME
  - Lubes
  - Asphalt
  - BTX extraction
  - Hydrogen
  - Sulfur
Biofuels/Synfuels:
- Type
- Intake capacity
- Production capacity:
  - Ethanol
  - Diesel
  - Naphtha
  - LPG
  - Other products
  - Total products

Ports:
- Capacity
- Berths:
  - Berth name
  - Operating group
  - Status
  - Type of service
  - Operating status
  - Depth
  - Length
  - Maximum length overall
  - Maximum draught
  - Maximum dead weight tonnage

Electrical Plants:
- Plant type
- Capacity (megawatts):
  - Total plant operating
  - Total gas-fired operating
  - By unit
- Primary and alternative fuel type by unit
- Unit type

Methanol, Ammonia and Urea Fertilizer:
- Product output capacity

Olefin Plants:
- Ethylene production capacity
- Feedstock usage by type (percentage)

Other Large Industrial Plants:
- Industrial type
- Plant production capacity
- Estimated gas consumption at full capacity

Distribution Structures:
- Gas pipeline and LNG supply profile:
  - Supplier
  - Contract status
  - Time period
  - Plateau contract volume
  - Maximum contract volume (if applicable)
  - Minimum contract volume (if applicable)
- Gas customer profile:
  - Customer type
  - Number
  - Time period
  - Sales volume

Modules available in the Energy Infrastructure and Markets Database suite of products include:
- Global Emissions – CO2 emissions by individual power plant and major industrial facilities along with Clean Development Mechanism (CDM) and Joint Implementation (JI) projects
- Global Gas Storage – Expands gas storage data coverage to include historical storage levels, injection and withdrawal rates
- E&P Essentials – Oil and gas fields, associated reserves and development status

All infrastructure data is mappable and accessible through IHS GIS products.