Energy Infrastructure and Markets Database: Global Gas and Power

Comprehensive infrastructure data for strategic analysis, investment planning, and decision support

In response to clients’ needs to track gas and power developments to best capitalize on opportunities created by the increasingly interconnected markets, IHS Markit has developed the Global Gas and Power Database.

Massive investment in LNG facilities and transcontinental gas pipeline projects has created a truly global gas market. Unconventional gas production in the United States and political developments worldwide have significant ramifications for gas price negotiations. Also the aftershocks of the earthquake in Japan will continue to be felt in gas and power markets around the world for a number of years with increased gas fired generation a likely option exercised to compensate for nuclear plant outages, early retirements and project deferrals.

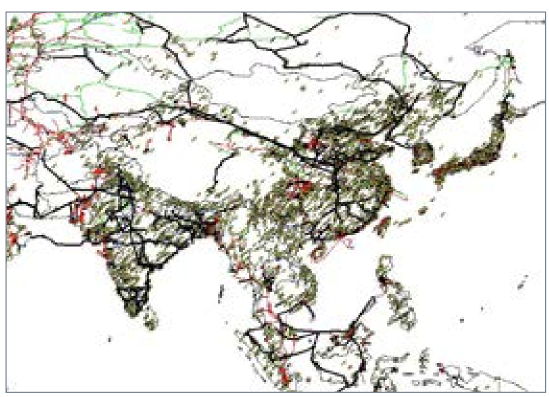
As power generation continues to be a major outlet for gas in most countries, the gas and power markets remain closely linked. Thus although power generation facilities typically are serving a regional market, with the globalization trend in the gas market, fuel supply planning must take into consideration developments in other markets. Also many gas exporters have growing domestic markets for gas which will impact future export availability.

Increased reliance on renewables as well as carbon emissions controls have become business planning issues, as well as mandates in many countries worldwide. Europe’s commitment to reduce carbon emissions by 20% as well as increase the share of renewable energy sources to 20% by 2020 will impact fuel usage in power generation and the continent’s pipeline and LNG import requirements.

In such a dynamic market environment, stakeholders must stay abreast of key issues and developments all along the gas and power chain on both a worldwide as well as regional basis:

- What is the status of gas pipeline and LNG projects, their capacity and expected online date?
- Who has contracted for the supplies from these projects, volumes and contract terms?
- What is the pace of development of gas fired power generation, petrochemical and industrial facilities in the gas exporting countries?
- How may infrastructure access affect fuel selection for new generation facilities, and what are trends on a country, regional and company basis?
- Where will renewables-based projects have a significant impact on gas usage in power generation?
- Will new gas storage facilities be sufficient to handle seasonal weather patterns and fluctuations as well as back-up generation requirements for renewables?
- What is a competitor’s infrastructure ownership position in a target market?
- Where are there opportunities to invest in gas and power projects and who are the current market participants?

Gas Storage - Central Eastern Europe shown by name


Asian Gas Pipeline Projects

As a leading provider of information and insight to the oil and gas industry, IHS Markit has expanded the scope of its Energy Infrastructure and Markets Database suite of products to provide a comprehensive **Global Gas and Power Database** for in-depth business planning and operations support. As well as existing facilities, projects are captured along with their current status and milestones for key events. The content is outlined in the following:

Common attributes for all facility types are plant name, operator, ownership structure, capacity by unit, online date by unit and location coordinates

Gas Pipelines:

- Type of pipeline
- Route & length
- Diameter
- Capacity:
  - Time period
  - Reported
  - Estimated
- Looping by segment
- Entry/Exit node capacity & throughput (for Europe)

Compressor Stations:

- Type
- Capacity
- Horsepower
- Input and output pressure

Gas Storage:

- Type of storage
- Storage volume:
  - Working gas
  - Cushion gas
  - Total
- Peak withdrawal capacity/injection capacity
- Installed compressor power MW
- Gas quality specifications

LNG Liquefaction & Regasification Facilities:

- Capacity & capacity holders
- Storage capacity
- Number of tanks
- Technology
- Capital cost

Gas Contract & Distribution Structures:

- Gas pipeline and LNG supply contracts:
  - Supplier & Buyer
  - Time period
  - Plateau volume
- Gas customer profile:
  - Customer type
  - Number
  - Time period
  - Sales volume

Power Plants:

- Plant type
- Capacity by unit & turbine type
- Primary/alternative fuel by unit
- Fuel consumption

Methanol, Ammonia and Urea Fertilizer:

- Product output capacity
  - Industrial Facilities
  - Plant type
  - Plant capacity
- Facility Emissions
  - Type
  - Allocated
  - Verified

CO2 Emissions by facility

- Emissions
  - Type
  - Allocated
  - Surrendered
  - Verified

Gas Processing Plants:

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

Other Large Industrial Plants:

- Industrial type
- Plant production capacity
- Estimated gas consumption at full capacity

Olefin Plants:

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

Ports:

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

Refineries:

- Capacity by major unit (bpd and tons/year):

Biofuels/Synfuels:

- Type
  - Biodiesel
  - Bioethanol
  - CTG
  - GTL
- Intake capacity
- Production capacity:
  - Ethanol
  - Diesel
  - Naphtha
  - LPG
  - Other products
  - Total liquid product
- Gas

Decision Support

Key information is provided to support:

Supply Planning – For key sources of natural gas by pipeline, what are the prospects for increased imports and what additional transit flexibility is needed? What is the status and expected commission date for pipeline expansions and new projects? How prominently will LNG figure into the supply outlook; which projects will advance and when will they be online?

Gas Procurement – What is the contract position of key market participants? How do the volumes and the duration match their primary market needs? Will storage be adequate to handle seasonal demand swings and accommodate volume commitments?

Market Analysis – What are the announced power plant projects, current status and online date? Will there be sufficient gas supplies to sustain the trend toward combined cycle gas fired facilities? How will renewables impact the need for gas fired power generation?

Competitor Analysis – What is the gas infrastructure and power generation market share by company on a country and pan-European basis? What is the customer profile by company? How does this compare with their gas contract position and generation kit?

The database mapping tools also allow users to create custom maps which can provide visual insight into critical questions such as:

- What are the transport options to access a potential customer and how will this change in the future?
- Where are the gas storage facilities in a specific market?
- How can regasification facilities be accessed?
- Where are system bottlenecks?
- How is a competitor positioned along the gas and power chain?
- What is the market potential in a specific region?
- Where are competitors' power generation projects located and what are the fuel types?
- Is there a large industrial base and potential gas market if supplies were available and infrastructure developed?

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

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

E&P Essentials: Integrate reserves and production on field level, including development status for new projects along with details on hydrocarbon characteristics, for your supply planning.

Oil Midstream Database: Comprehensive unit processing and production capacity information to 2020.

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.

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