

Challenges in collecting natural gas data and analyzing gas markets:

Cedigaz experience

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Cedigaz is

- An international association, created in 1961 and dedicated to natural gas information,
- Based near Paris with 130 members in 40 countries,
- 14 companies in the Administration Board : BP, ConocoPhillips, ENI, Eon-Ruhrgas, GasTerra, Gazprom, GDF SUEZ, IEF, IFP Energies Nouvelles, Shell Gas & Power, Sonatrach, Tokyo Gas, Total, Wintershall.

Cedigaz' goals consist in:

- Gathering, compiling and analysing worldwide economical information on natural gas, LNG and unconventional gas in an exhaustive and critical way, focusing country data (about 100 countries) but not companies performances
- Diffusing this information in its periodic bulletins, surveys, publications and online databases.



Cedigaz delivers news reports and maintains a database of exhaustive news addressing various aspects of the gas chain (from exploration to market):

- permanently scrutinized, selected, pre-analysed for their content and major interest
- most generally cross-checked from several reliable sources
- published every two weeks for the Cedigaz News Report
- published every month for the Unconventional Gas Report

Selection, preliminary analysis and recording of reliable news is a key step in the collect of data and further studies, materialized by products and services offered to the members:

- Statistical on-line Data Base, with two major annual updates and records back to the 70's
- UGS Worldwide on-line Data Base
- Papers, articles and thematic surveys
- a major annual study "Natural gas in the World"



What are Cedigaz components of data collection ?

- ◆ reserves estimates
- ◆ production statistics
- ◆ international gas trade (by LNG and pipeline)
- ◆ underground storage facilities
- ◆ gas prices (annual review only)
- ◆ gas consumption
- ◆ energy outlook for gas market prospective (short-term and medium term)
- ◆ key-players information (market shares, etc.)

A key objective is the reliability of collected data

However, Cedigaz only exceptionally focuses daily or monthly figures (e.g. for prices and specific studies)

Cedigaz exceptionally enquires directly to association members



What does mean reliability of collected data for Cedigaz?

- ◆ a consensus has to be found from various players, with a priority to official bodies (national agencies or ministries),
- ◆ according to the subject, 30 to 60% of covered countries make some piece of data publicly and easily available (incl. language issues), but generally with a large time span,
- ◆ Cedigaz adjusts its preliminary estimates when official bodies finally publish/amend their own national data,
- ◆ according to the subject, 40 to 70% of Cedigaz worked data are supported by a continuous effort to access the relevant information from various sources, crosscheck, consult with experts and exchange views with a few organizations
- ◆ even when data are officially published, there remain problems of compatibility and completeness (e.g. traded gas, gas reserves, etc.)

Major uncertainties in gas trading

♦ *the objective is to trace and analyse physical exchanges between countries - materialized through exchange matrices for both LNG and pipeline gas trading*

- pipeline gas:

- ♦ 60% of watched countries finally produce official data; remaining 40% collected from various sources of which 18% to be estimated/calculated by Cedigaz
- ♦ effort to crosscheck how much gas is transited and actually imported
- ♦ growing spot markets make more difficult the allocation of physical exchanges

- LNG:

- ♦ 42% of watched countries produce official data; one industry association provides 26% of missing data and Cedigaz estimates from various sources for remaining 32%
- ♦ difficulties with growing spot markets and re-exports

Major uncertainties in gas consumption

- ◆ in its annual study, Cedigaz publishes the apparent gas consumption, as the arithmetic result of (marketed production + imports – exports);
- ◆ for specific sector studies and for projection exercises, Cedigaz uses/works out real gas consumption data:
 - but unfortunately, gas volumes are rarely qualified in terms of average heat content (GCV)
 - then, GCV/NCV have to be estimated for all analyses reverting to energy balances (current balance, gas demand forecasts...)

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Major uncertainties in gas production

- ◆ **gas production**: *from gross production to marketed gas, including reinjection, flaring, shrinkage and losses...*
 - many countries officially publish all components of gas production (43%);
 - others only publish partial data (e.g. marketed gas) requiring Cedigaz estimates (22%);
 - a significant number of countries do not publish anything, requiring a large effort of estimating (35%)

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Major uncertainties in gas reserves

♦ gas reserves:

- only 33% of countries finally publish some reserve data at one year interval; (Cedigaz provides its own preliminary estimates early May)
- official data are always privileged although sometimes difficult to trace; for 67% of countries, reserves estimates are the result of continuous watch of exploration/development activities
- although Cedigaz focuses "Proven reserves", historical series are not always comparable between countries, including various types of assessments (SPE 1P, SPE 2P, Russian standards, unknown or doubtful reserve classes...and non-commercial gas)

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Medium term improvements eyed by Cedigaz

- ◆ **gas trading:**
 - *better tracing of physical movements (from gas hubs in particular)*

- ◆ **gas reserves and gas production:**
 - *try to characterize gas quality (acid gas content, NGLs potential, GCV)*
 - *field gas requirements (reinjection) = gas not immediately available to market*
 - *unconventional sources*

- ◆ **gas consumption:**
 - *NCV required to integrate the energy balance, particularly in case of various gas sources (domestic production, imports)*

Thank you

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