



Rueil-Malmaison, 15th July 2013

NEW STUDY RELEASED

CEDIGAZ, the international association dedicated to natural gas information, has just published a new report on underground gas storage:

UNDERGROUND GAS STORAGE IN THE WORLD-2013 SURVEY

KEY FINDINGS

A SUSTAINED GROWTH IN UNDERGROUND GAS STORAGE DRIVEN BY ASIA AND THE MIDDLE EAST

Global gas storage capacity is expected to increase from 377 billion cubic meters (bcm) at the beginning of 2013 to 557-631 bcm by 2030. The incremental growth, 180-254 bcm by 2030, requires sustained investment all over the period: around €120 billion will need to be invested by 2030. In 2030, storage represents 11.6% to 13.1% of global gas demand, compared with 11.3% in 2013.

New storage markets (Asia, the Middle East) account for around 60% of the incremental capacity through 2030. A strong growth is expected in the fast emerging gas markets (China, in particular). In these markets, storage infrastructure has to be built almost from scratch. Investment focuses on creating large volumes of storage capacity as well as peak deliverability to cope with rising imports and growing city and power demand. Storage projects are chiefly linked to i) seasonal and peak balancing needs, ii) optimization of the main long distance gas transmission pipelines and iii) security of supply.

In mature markets (USA, most of Europe and the Commonwealth of Independent States), the growth in storage capacity is limited. The focus is on increasing peak deliverability rather than storage volumes. In developed and liberalized markets, the gas industry has undergone massive changes, largely impacting the storage activity which performs new functions in addition to the operational ones. New storage needs are linked to the development of trading activity and to the use of natural gas as back-up of intermittent renewable energy sources in electricity generation. These two trends favor flexible storage (salt caverns). Security of supply is also a major driver of additional storage needs in Europe where import dependence is increasing.

Faced with competition from other sources of flexibility, the storage industry has to develop techniques, on a regular basis, to answer new requests of the market in terms of performance, flexibility and economic efficiency. In recent years, the trends are towards expansion of existing capacities, improvement of efficiency and performance, and development of larger flexible storage (mega size caverns).

At worldwide level, there are 688 underground gas storage facilities in operation in the world at the beginning of 2013, representing a working gas capacity of 377 bcm. Underground gas storage has been developed in four regions: North America, Europe, the CIS, and Asia-Oceania. **North America concentrates more than two thirds of the sites,** with 414 storages in the US, and 59 in Canada, and a combined working

capacity of 152 bcm (40% of the global total). **There are 144 facilities in Europe** (99 bcm), and **51 sites in the CIS** with 51 facilities (115.5 bcm). **Asia-Oceania** has 18 sites (9.3 bcm of working capacity). There is only one site in Argentina as well as in Iran.

Storage capacity has increased significantly since 2010 (+ 35 bcm), mainly under the impetus of Europe which added almost 14 bcm of capacity in the past three years. Due to long lead times, a large share of these storage facilities was decided in the mid-2000s, before the economic crisis and fall in European gas consumption.

The gas industry is willing to continue investing in this key asset to support the expansion of global gas markets and accompany the trend towards more intermittent energy sources. **At worldwide level, there are 95 projects under construction adding 68 bcm of working capacity.** Most of them will be completed by 2020/25. In addition, there are **141 identified projects at different stages of planning.** These planned projects would add another 85 bcm of working capacity if they were all implemented. Europe ranks first for all categories: number of projects, additions to working gas capacity, projects under construction and planned projects.

UNDERGROUND GAS STORAGE IN THE WORLD-2013 SURVEY

Since its first publication in 1990, "Underground Gas Storage in the World" has been the industry's reference on underground gas storage. The updated 2013 edition includes in-depth CEDIGAZ's analyses of the latest developments and trends in the storage market all over the world as well as extensive country analyses with complete datasets including current, under construction and planned storage projects in 48 countries. It describes the 688 existing storage facilities in the world and the 236 projects under construction and planned. Future storage demand and its main drivers are presented at global and regional levels.

THE SURVEY INCLUDES FOUR MAIN PARTS:

The first part gives an overview of underground gas storage in the world at the beginning of 2013 and analyzes future storage needs by 2030, at regional and international levels.

The second part focuses on new trends and issues emerging or developing in key storage markets. It analyzes the emerging storage market in China, reviews the storage business climate in Europe, examines Gazprom's storage strategy in Europe, and reviews recent trends in storage development in the United States.

The third part gives some fundamental background on technical, economic and regulatory aspects of gas storage.

The fourth part gives a countrywide analysis of the 48 countries in the world holding underground gas storage facilities or planning storage projects.

ABOUT CEDIGAZ

CEDIGAZ is an international association dedicated to natural gas information. Since its creation in 1961 CEDIGAZ has been recognized by the gas industry as one of the most reliable and independent sources of information on the whole gas chain. CEDIGAZ has more than 100 members in 40 countries.

ORDER

€ 3 000 (one user)

Special price for CEDIGAZ's members

Order your report online: www.cedigaz.org/ecommerce/studies_01.aspx or

Contact us: info@cedigaz.org

Full Report Details at : www.cedigaz.org/surveys/underground-gas-storage-homepage.html