

# Natural Gas Storage Market – Global Industry Size, Share, Trends, Opportunity, and Forecast Segmented By Type (Underground Storage and Above-Ground Storage), By Application (Residential, Commercial, Others), By Region, Competition 2018-2028.

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## Abstracts

Global Natural Gas Storage Market has valued at USD 308 Billion in 2022 and is anticipated to project robust growth in the forecast period with a CAGR of 5.75% through 2028. Natural gas is a versatile and widely used energy source, employed in various sectors such as power generation, industrial manufacturing, and residential heating. Unlike some other energy sources like coal or oil, natural gas cannot be easily stored on-site in large quantities. This necessitates the development of dedicated storage facilities. Natural gas storage facilities serve as a buffer during supply-demand imbalances, ensuring a stable energy supply even during peak demand or supply disruptions. In times of extreme weather or geopolitical tensions that affect gas supply routes, these reserves become critical. Demand for natural gas often varies seasonally, with higher consumption during winter for heating and lower consumption during summer. Storage helps balance these fluctuations by storing excess gas during low-demand periods and releasing it when needed. Natural gas storage plays a pivotal role in stabilizing gas prices. When supply is abundant, excess gas can be stored, reducing the risk of price spikes. Conversely, during supply shortages, stored gas can be injected into the market to alleviate price pressures.

## Key Market Drivers

Natural gas has emerged as a leading primary source of energy because it burns cleaner than other fossil fuels. It is widely adopted in various applications stressing the demand for energy security by storing it in different forms. Natural gas is stored during

periods of lower demand and withdrawn during periods of higher demand. The consumption of natural gas is strongly influenced by weather condition especially during the winter season as it is used for space heating in residential and commercial buildings. Stored natural gas plays a vital role in ensuring that any excess supply delivered during summer months is available to meet the increased demand for winter months. Natural gas in storage imparts energy security against the catastrophic disaster that may affect the production or delivery of natural gas. In addition to serving those purposes, natural gas storage is broadly adopted by industry participants for commercial reasons. Storing gas when prices are low and withdrawing and selling it when prices are high. Due to several other reasons and advantageous properties of natural gas; it is essentially important to store natural gas.

### Growing Need of Natural gas storage System

Natural gas storage can be broadly classified into the type of storing method; Aboveground Storage and Underground Storage. The transportation and distribution of natural gas in above ground storage can be done in the form of liquified natural gas (LNG) as it requires less space compared to gaseous natural gas. Underground storage is further divided into depleted gas reservoirs, aquifers, and salt caverns. The depleted gas reservoir is the most common type of storage facility due to the capacity to hold natural gas for future use and the rate at which gas can be withdrawn. Depleted oil and natural gas reservoirs commonly used underground storage sites because of their economic viability. Aquifers are porous, a permeable rock formation that acts as natural water bodies. In certain conditions, these natural water bodies are reconditioned to store natural gas. Aquifers are expensive to develop and usually employed where there is no availability of depleted gas reservoirs. The salt cavern is an artificial cavity created by injecting water to dissolve the salt and offers the facility to store natural gas. Natural gas not only offers an environmentally friendly form of energy but also burns cleaner than other forms of fossil fuels turning it into the most affordable and highly utilized fuel expanding the growth of the natural gas storage. To meet the increasing demand for natural gas, storage is important to offer energy security which drives the market of natural gas storage. A rigid infrastructure is needed to store natural gas in a controlled environment. It requires a huge periodic investment in operation and maintenance activities to curb leak from storage tanks. Natural gas storage is quite expensive and criticality in transmission capacity is the restraints are anticipated to hamper the growth of the natural gas storage market.

### Key Market Challenges

The natural gas storage market is a critical component of the global energy infrastructure, enabling the reliable supply of natural gas to meet various energy needs. This market encompasses a range of storage facilities and strategies designed to balance supply and demand, manage price fluctuations, and ensure energy security. However, it is not without its share of challenges. In this article, we will explore the natural gas storage market, its significance, the types of storage facilities, and delve into the key challenges it faces. Natural gas is a versatile and widely used source of energy, playing a crucial role in various sectors, including electricity generation, heating, and industrial processes. Unlike some other forms of energy, natural gas cannot be easily stored at the point of production or consumption in sufficient quantities to meet fluctuating demand. Therefore, the development of dedicated storage facilities is essential. The significance of the natural gas storage market can be summarized as follows:

**Energy Security:** Natural gas storage facilities act as a buffer during supply-demand imbalances and unexpected disruptions. They provide a reserve that can be tapped into during extreme weather conditions or geopolitical tensions affecting gas supply routes, ensuring a consistent energy supply.

**Balancing Seasonal Demand:** Demand for natural gas often varies seasonally, with higher consumption during the winter months for heating and lower consumption during the summer. Storage facilities allow excess gas to be stored during periods of low demand and released when needed, helping to balance these fluctuations.

**Price Stabilization:** Natural gas storage helps stabilize gas prices by absorbing excess supply during periods of oversupply and releasing stored gas during shortages. This helps prevent extreme price fluctuations and ensures affordability for consumers.

### Challenges in the Natural Gas Storage Market

The natural gas storage market faces several challenges, which have grown in complexity in recent years. These challenges can have a significant impact on the operation, economics, and sustainability of storage facilities. Here are some key challenges:

**Regulatory Complexity:** The development and operation of natural gas storage facilities are subject to complex and evolving regulatory frameworks. Regulations can vary significantly by region, making it challenging for operators to navigate compliance requirements. Regulatory changes can also affect the financial viability of storage

projects.

**Environmental Concerns:** Natural gas storage operations can pose environmental challenges, particularly in terms of methane emissions. Leaks and fugitive emissions of methane, a potent greenhouse gas, can occur during the storage process. Addressing these concerns is essential to align with environmental and sustainability goals.

## Key Market Trends

### Importance of Natural Gas Storage

Natural gas is a versatile and clean-burning fossil fuel used for various purposes, including electricity generation, heating, and as a feedstock for industries. Unlike some other energy sources, natural gas production is often uneven and can be subject to seasonal fluctuations, geopolitical disruptions, and unexpected demand spikes. Natural gas storage facilities act as a buffer against these uncertainties, providing a consistent and reliable supply of gas to meet demand fluctuations. The global natural gas storage market has been steadily growing over the years, driven by factors such as increasing natural gas consumption, expansion of gas infrastructure, and the need for energy security. According to the International Energy Agency (IEA), in 2020, global natural gas consumption stood at 4,047 billion cubic meters, and this demand is expected to continue growing in the coming years.

### Expanding Infrastructure

One of the prominent trends in the natural gas storage market is the expansion of storage infrastructure. As demand for natural gas grows, new storage facilities are being constructed, and existing ones are being upgraded and expanded. This is particularly crucial in regions where natural gas plays a significant role in energy supply, such as North America, Europe, and Asia. Advancements in technology are transforming the natural gas storage sector. Enhanced storage techniques like underground salt caverns, depleted oil and gas reservoirs, and aquifer storage are becoming more common, allowing for higher storage capacities and improved efficiency. Additionally, digitalization and automation are enhancing monitoring and control systems, making storage operations more efficient and cost-effective.

### Shift Towards Renewable Energy

The global push towards cleaner energy sources is influencing the natural gas storage

market. Natural gas is seen as a bridge fuel that can help transition from fossil fuels to renewable energy sources like wind and solar power. This has led to increased interest in flexible gas storage solutions that can quickly respond to fluctuations in renewable energy generation, ensuring grid stability.

## Regulatory Changes

Regulatory changes and environmental concerns are impacting the natural gas storage market. Governments worldwide are imposing stricter emissions standards, which are driving investments in technologies like carbon capture and storage (CCS) to reduce the environmental footprint of gas storage facilities. Additionally, regulatory changes may affect the location and construction of new storage facilities. Geopolitical factors continue to influence the natural gas storage market. Supply disruptions due to geopolitical tensions can lead to increased demand for gas storage as countries seek to ensure a steady supply of energy. For example, the European Union has been actively promoting gas storage projects to enhance energy security in the face of political uncertainties.

## Segmental Insights

### Type Insights

In 2022, the large underground type held the biggest market share (92%). Like the majority of other products, fossil fuel may be kept in storage for a very long time. Natural gas exploration and development typically take time. Additionally, natural gas sometimes isn't used right away after arriving at its location, so it's kept in facilities, probably underground. With seasonal changes, subterranean coal and gas storage has become a crucial component of the energy supply, especially for countries in Europe and North America. Production that is constant and consistent contrasts with demand and usage that are erratic and follows a seasonal pattern depending on the patterns. Due to the significant increase in demand for subterranean natural gas on the international market, the percentage of usage has been observed to increase steadily.

## Regional Insights

The Asia Pacific region has established itself as the leader in the Global Natural Gas Storage Market with a significant revenue share in 2022. In 2022, APAC had the biggest market share, and it is anticipated that during the forecast period, APAC would continue to rule the storage of natural gas market. The climate in the region is conducive to the

extraction of natural gas, and countries like China, India, and Indonesia have sizeable rural populations, therefore the Asian region market is expected to increase significantly during the course of a projection period. Additionally, rising natural gas prices are anticipated to drive market growth in the years ahead future. Due to their fast-growing end-use industries, India and China were two of the world's biggest marketplaces. Many nations that produce less natural gas domestically use gas storage facilities to meet demand. These nations consist of Korea, Taiwan, Indonesia, & Malaysian. All of these elements are anticipated to fuel market expansion in the region of Asia Pacific.

### Key Market Players

Gazprom

Naftogaz of Ukraine

Centrica Storage

Uniper SE

E.ON SE

TransCanada Corporation

Enbridge Inc.

The Williams Companies, Inc.

Southern Company

Duke Energy

### Report Scope:

In this report, the Global Natural Gas Storage Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

### Global Natural Gas Storage Market, By Type:

Underground Storage

Above-Ground Storage

Global Natural Gas Storage Market, By Application:

Residential

Commercial

Others

Global Natural Gas Storage Market, By Region:

North America

United States

Canada

Mexico

Asia-Pacific

China

India

Japan

South Korea

Indonesia

Europe

Germany

United Kingdom

France

Russia

Spain

South America

Brazil

Argentina

Middle East & Africa

Saudi Arabia

South Africa

Egypt

UAE

Israel

## Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Natural Gas Storage Market.

## Available Customizations:

Global Natural Gas Storage Market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

## Company Information



Detailed analysis and profiling of additional market players (up to five).

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