

storengy

About Storengy

Our products

Our services

H₂ future

Our commitment/
health & safety

Storengy & you

Contact

**SALES
BOOKLET
2024**

**Products and
services designed
to fit your needs**

A company of **ENGIE**

About Storengy

A company of ENGIE

Storengy Deutschland GmbH is one of the largest natural gas storage companies in Germany. It is a subsidiary of Storengy SAS, which bundles ENGIE Group's global gas storage activities. Storengy is the market leader in Europe for storage services.

Comprehensive know-how - many years of operating experience

Storengy Deutschland offers a smooth interplay of modern technical infrastructure and internationally networked know-how that has been tried and tested over many years - in plant construction, operations management and storage marketing. Storengy Deutschland Betrieb, which is responsible for operating German storage facilities, also offers a wide range of services to third parties.

Innovative partner for a new world of energy

We make our expertise available to numerous partners worldwide, so that they can develop geothermal projects (heat and electricity production) as well as energy storage and power-to-x solutions.

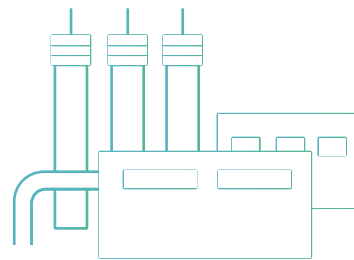


1.6
billion

cubic metres
working gas volume

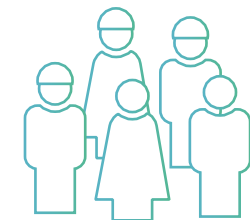


24/7 remote operation
via Central Control Room
in Hanover (Germany)



6 storage facilities
in Germany

Key facts



More than 150
employees
in Germany

70 years

More than 70 years of experience
in underground gas storage
in Germany, France and the UK

20 years

on average accident-free
at storage facilities in Germany

Natural gas storage – our locations

LESUM

H-gas cavern storage facility located north of Bremen. In operation since 2000.

[more](#)



HARSEFELD

H-gas cavern storage close to Hamburg. In operation since 1992. Two caverns with high injection and withdrawal capacity.

[more](#)



UELSEN

H-gas pore storage in the County of Bentheim, Lower Saxony. In operation since 1997. Storengy's largest pore storage in Germany.

[more](#)



PECKENSEN

H-gas cavern storage in the Altmark region, Saxony-Anhalt. Five caverns – Storengy's largest cavern storage in Germany. High injection and withdrawal capacity.

[more](#)



FRONHOFEN

H-gas pore storage near Ravensburg, Baden-Württemberg. In operation since 1997. Seasonal back-up of Stuttgart's gas supply.

[more](#)



SCHMIDHAUSEN

H-gas pore storage near Rosenheim, Bavaria. In operation since 1983. Our second-largest pore storage.

[more](#)



Lesum
Harsefeld

Peckensen

Uelsen

Hanover
Storengy Deutschland Betrieb GmbH
Central Control Room
Headquarters

Berlin
Storengy Deutschland GmbH
Headquarters

Fronhofen

Schmidhausen

Natural gas storage – our products and services

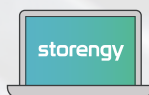
Storengy provides reliable natural gas storage facilities with strong performance and a high degree of safety. We operate six natural gas storage facilities throughout Germany, three of which are pore storage facilities and three of which are cavern storage facilities.

Tailor-made natural gas storage solutions

Storengy also offers a wide range of products and services that can be tailored to your needs: ranging from comprehensive basic offers and various additional modules to trendsetting product innovations. Our customers' markets and needs are developing at a fast pace which is an incentive for us to always be one step ahead with thoroughly thought-out solutions. Storengy uses multiple marketing methods – standardised auctions in our storage portal, the innovative first-come-first-served marketing and bilateral negotiations.

Our range of services specifically answers your needs – because it results from the rigorous interplay between our own development and in-depth customer dialogue.

In addition, our activities focus on technical services. The specialised teams work in an environment with a state-of-the-art technical infrastructure. Our range of services also includes the efficient and safe development, projection and operation of natural gas storage.



More about our products and services

Cavern storage facilities

	WGV – GWh	Market area
Peckensen	3,820	THE - H
Harsefeld	1,270	THE - H
Lesum	1,750	THE - H

Pore storage facilities

	WGV – GWh	Market area
Uelsen	9,900	THE - H
Schmidhausen	1,770	THE - H
Fronhofen	107	THE - H

18 TWh

Storengy owns and operates a working gas volume of around 18 TWh.

Storengy's multiple marketing methods

Bilateral negotiations

Storengy offers bilateral negotiations, on request

- Tailor-made products
- Adoption of customer needs
- Innovative products and pricings
- If demand is too high, Storengy is obliged to change bilateral into auctions



Customer request Negotiations Closing



Auctions

Storengy runs auctions

- Standardised products
- Fast to market
- **Easy to book - on Storage portal**



Auctions



First come - first served

First-come-first-served marketing (FCFS)

- FCFS principle: The marketing takes place not on a certain date, but during a period of time. Bids that exceed the internal pmin are allocated, until all capacity is sold
- Registration via e-mail to your sales manager
- Bids to be sent via e-mail to operations@storengy.de and auctions@storengy.de



Announcement
of FCFS product

Bidding period



Registration period

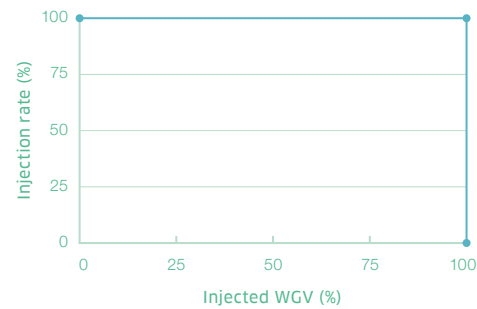
Product description of cavern storage sites

Harsefeld

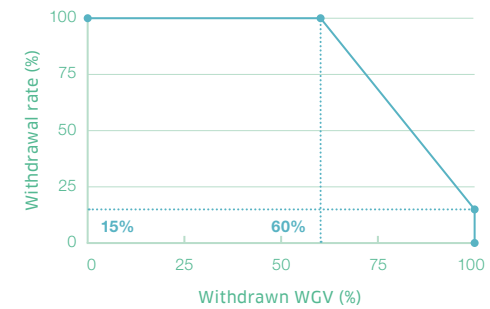
	Injection	Withdrawal
Days, nominal	60	45
Days, real	60	30

Delivery point: UGS Harsefeld

Injection curve



Withdrawal curve

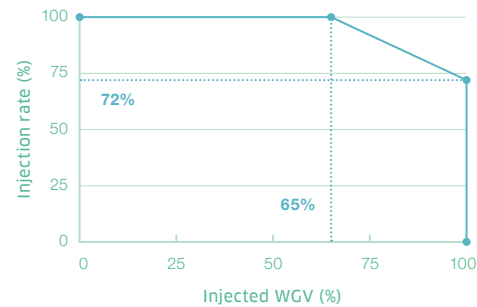


Lesum

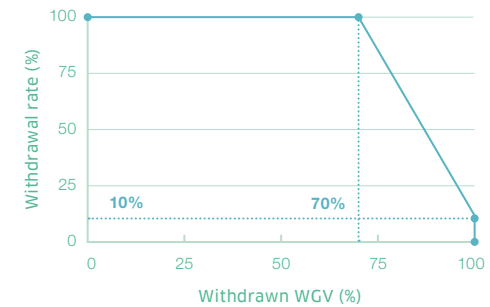
	Injection	Withdrawal
Days, nominal	80	45
Days, real	85	30

Delivery point: UGS Lesum

Injection curve



Withdrawal curve



Peckensen

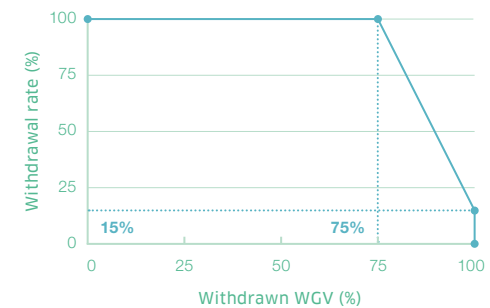
	Injection	Withdrawal
Days, nominal	60	22
Days, real	60	29

Delivery point: UGS Peckensen

Injection curve



Withdrawal curve



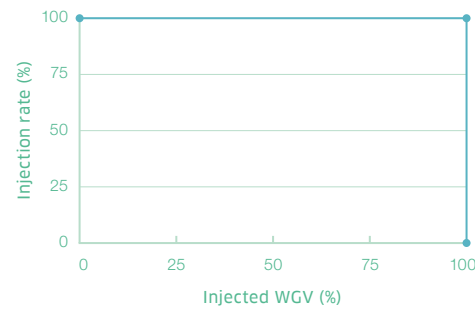
Product description of pore storage sites

Schmidhausen

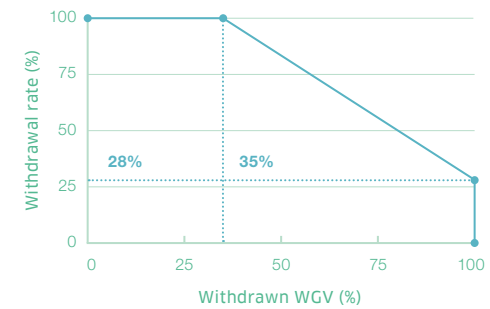
	Injection	Withdrawal
Days, nominal	160	52
Days, real	160	77

Delivery point: UGS Schmidhausen

Injection curve



Withdrawal curve

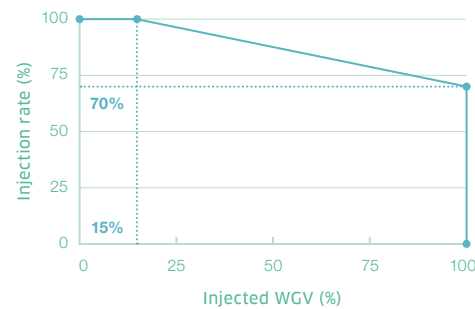


Uelsen

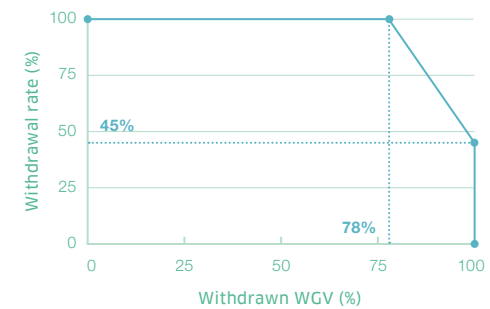
	Injection	Withdrawal
Days, nominal	120	95
Days, real	140	105

Delivery point: UGS Uelsen

Injection curve



Withdrawal curve



Products and services designed to fit your needs

Standard storage products

A Standard storage product is a bundled storage product consisting of a firm working gas volume, a firm injection rate and a firm withdrawal rate offered at one of Storengy's storage facilities (physical delivery) or at the Virtual Trading Point (delivery at the Hub). Possible duration is one to several years, different pricing methods (fixed price, indexed price, etc.) can be applied.



Tailor-made products

Products that meet individual preferences and are developed in personal cooperation with the customer.



Optimisation products

Optimisation products usually have a duration of less than one year. This helps in capturing short-term spreads or enhances the performance of an existing product. Optimisation products may include interruptible working gas volume and/or interruptible injection and withdrawal rates.



Pre-filled products

Storengy is constantly monitoring the market for favourable inverse spreads. If such spreads occur and own gas quantities are available, Gas-in-Store products are being marketed. The working gas included in the Gas-In-Store product will be provided by Storengy on a loan basis and will be returned by storage customers to Storengy at the end of the storage product duration.

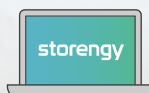


Day-ahead capacity booking

The firm physical and virtual day-ahead product (DAf) is tailored to your needs. With this product, we offer you additional firm injection and withdrawal rates on a daily basis. You gain several advantages at once: You increase the performance of your portfolio and can benefit from attractive market spreads at very short notice.

Click & book procedure

In our storage portal, the day-ahead capacities can be easily booked per mouse click. A confirmation e-mail will be automatically sent to you. The capacity price in euros/MWh is published under "Storage Information".



Guideline for the booking of additional (virtual) storage rates

storengy STORAGE INFORMATION OPERATIONS AUCTIONS SECONDARY MARKET MAINTENANCE/REMIT

- Fronhofen
- Harsefeld
- Lesum
- Peckensen
- Schmidhausen
- Uelsen
 - General Information
 - Flows and Levels
 - Capacities
 - Additional Storage Rates
 - Maintenance
- VHP - THE
 - Available Capacities

Storage Information

Day-Ahead Capacities

Uelsen - Additional Storage Rates

You can book additional Day-Ahead injection and withdrawal rates (ADASR). We publish daily until 10:00 (CET/CEST) the available ADASR in the Harsefeld, Lesum, Peckensen und Uelsen storages.

ADASR can be booked between 10:00 and 23:59 (CET/CEST).

In addition, you can request additional storage rates (ASR) for other durations (e.g. Within-Day, certain gas days, weekend, etc.) via e-mail at operations@storengy.de. We will check your request and inform you about the availability and the price of the requested product.

DA Injection Rate:	DA Withdrawal Rate:	Date:
Available Injection Rate: 0 MWh/h	Available Withdrawal Rate: 200 MWh/h	Updated at: 03.01.2024 09:04 (CET)
Price for Injection: 0.70 Euro/MWh	Price for Withdrawal: 0.30 Euro/MWh	Available from: 04.01.2024 06:00 (CET)
		Available to: 05.01.2024 06:00 (CET)

Terms and Conditions

- GTASR
- Guideline Additional Storage Rates

Contact Privacy Imprint GTCs

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Finance product/sublease – a flexible service for you

The financing product is aimed at storage customers with an existing contract at a Storengy storage facility in Germany.

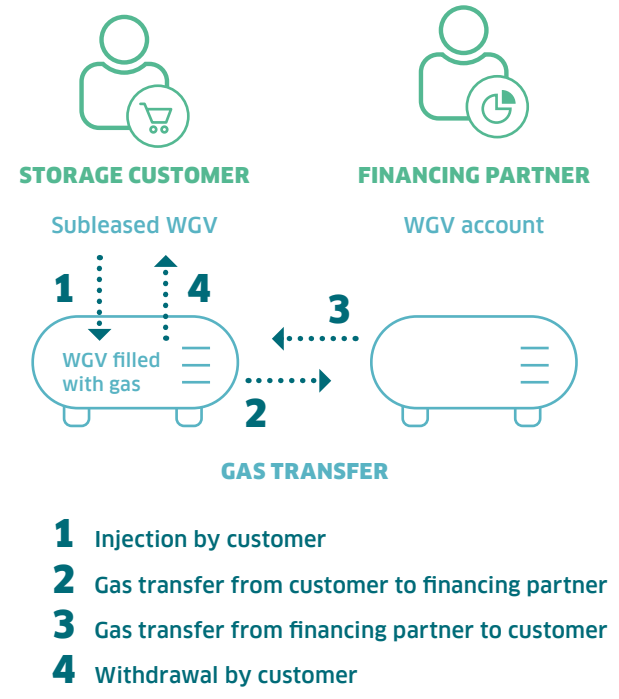
Storengy Deutschland offers all customers a financing service that enables them to transfer ownership of their stored gas to a financing partner/bank.

The stored gas is transferred in parts. The respective volumes for these parts can be adjusted, providing the customer with a

flexible service. The financing partner has its own virtual gas account with permanent control, but without having a “gas desk” or being a storage customer itself.

The customer retains full control over injections and withdrawals. The banks or financing partners offer preferential tariffs because the stored gas serves as security for the creditors: They can keep the stored gas should the customer default.

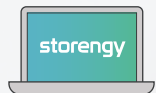
How does it work?



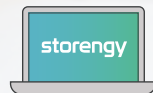
Storage portal

Our storage portal contains a public area that includes general information, sample products, available capacities, flows and levels as well as current maintenance information.

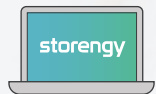
In addition, registered customers can also book additional day-ahead capacities (per click & book), as well as access information about their storage contracts, nominations (including for virtual contracts) and the auction platform.



Storage portal



Guideline storage portal



Handout auction portal



Available capacities

The screenshot shows the Storengy Storage Portal homepage. At the top, there is a navigation bar with the Storengy logo and menu items: STORAGE INFORMATION, OPERATIONS, AUCTIONS, SECONDARY MARKET, and MAINTENANCE/REMIT. The main heading is "Storage Portal Storengy". On the left, there is a large image of a worker in a hard hat and safety vest operating machinery. The main content area is divided into several sections: a welcome message, a registration form, a "Day-Ahead Products" section with a "Login" button, an "Upcoming auctions" section listing "Virtual Gas-in-Store Product 24 I", "Virtual Gas-in-Store Product 24 II", and "Virtual Gas-in-Store Product 24 III" with an "Auktionen" button, and a "Subscribe for Upcoming Marketing Activities Newsletter" section with a "Registration" button. At the bottom right, it says "Status: January 2024". The footer contains "Contact Privacy Imprint GTCs", social media icons for LinkedIn, Twitter, and YouTube, and "A company of ENGIE".

The screenshot shows the Storengy Auctions Overview page. The navigation bar is the same as the homepage. The main heading is "Auctions Overview". On the right, there is a "Registration" button. The main content area is divided into two sections: "Upcoming auctions" and "Auction documents:". The "Upcoming auctions" section lists three items: "Virtual Gas-in-Store Product 24 I", "Virtual Gas-in-Store Product 24 II", and "Virtual Gas-in-Store Product 24 III". Each item has a "go to auction" button. The "Auction documents:" section lists "Auction documents at a glance", "Auction Terms and Conditions", "General Terms and Conditions", "Guideline Storage Portal", and "Guideline Online Auctions". At the bottom right, it says "Status: January 2024". The footer contains "Items per page: 10 1 - 3 of 3".

New secondary market

According to Article 12, Council Regulation (EU) 2022/2576, Storengy as the gas storage facility operator is “obliged” to set up a platform for secondary marketing by 28 February 2023. We offer all customers that use their storage capacities in our H-gas storage facilities a corresponding option.

As a contractual user, you can offer and market your booked storage capacities on the secondary market. The options available for this are set out in our GTCs Part V. Our customers contact their sales manager or sales@storengy.de and we will put your request online here:



Pricing mechanism examples



Fixed price

- Fixed price in euros/MWh
- Single price for the whole contract duration, or
- Variable prices for different storage years



Tranche model price

The storage price shall be:

- Determined **gradually** by Storengy up to x times
- Based on spreads **tradable** by the storage customer at the moment the price is fixed
- Can be combined with pmin or pmax if necessary
- Pricing: **$P (\text{€/MWh}) = \text{Spread} + a$**



Target price

- The **target price** is agreed between Storengy and the storage customer (Phase 1)
- The product is published and released for booking at the pre-set target price within a time window (Phase 2)



Indexed price

- **$P (\text{€/MWh}) = \text{Spread} + \text{Premium}$**
- Spread = Summer-Winter or Q3-Q1
- Spread: Firm or variable
- Multiple years

Technical Dispatching

One Central Control Room for a total of six storage sites – the centralisation of Technical Dispatching has been a reality at Storengy since May 2019. Aided by digital process control systems, all Storengy natural gas storage facilities in Germany, as well as further plants of two third-party customers, are remotely controlled and monitored from a newly established Central Control Room in Hanover. Twenty-four hours a day, seven days a week. With this innovative concept, Storengy has a pioneering role in Germany.


24/7
remote operation

6 storage facilities

100%
engagement


6 dispatchers per shift


2 third-party clients

1 Central Control Room



Commercial Dispatching

Our Commercial Dispatching in Berlin ensures the smooth operational processing of storage contracts in fully continuous shift operations.

We are your first point of contact whenever you have questions concerning your contracts. We are happy to help and make sure that our about 120 performance tests and technical limitations per year are invisible for our clients. And we keep your injection fees low by optimising the compressor runtimes and energy-efficient schedules for injection and withdrawal.



Coordination with
4 transport system
operators

100%
storage reliability
at storage sites



Scheduling of
6 storage sites



Handling of
EFET-Deal flows

More than
1,000
optimised storage schedules
per year

~500
transport capacity bookings
per year

~200
day-ahead and within-day
capacity bookings by our
clients per year

SaltHy – the future of energy storage

Vision meets proven storage technology – why is the project so important?

Hydrogen storage is essential for achieving Germany's energy- and climate-policy goals.

In the long term, the expected hydrogen storage demand (>74 TWh*) exceeds the conversion potential. (New) salt caverns are currently the best alternative to cover storage requirements until the beginning of the next decade.

About the project

Storengy is planning to expand its existing salt cavern field in Harsefeld with the SaltHy project. SaltHy (Storage Alignment with Load and Transport of Hydrogen) is a northern German lighthouse project on an industrial scale, in which hydrogen is to be stored in underground salt caverns in the immediate vicinity of the Harsefeld gas storage facility. An additional salt cavern will initially be developed for hydrogen storage at the Harsefeld site by 2030.



Hydrogen energy
by Storengy

The construction phases of the project

Phase 1 until 2030

Construction of a new
salt cavern
Construction of the
surface facilities

Phase 2 until 2035

Construction of a
further salt cavern
Expansion of the
surface facilities

Phase 3 2045

Conversion of existing
natural gas storage facilities
for the storage of
hydrogen

Transition – our commitment to the environment

Biodiversity

To protect the environment and biodiversity, we have been reducing our ecological footprint for many years by implementing a variety of specific measures at all our storage sites. For example, in Schmidhausen, we planted fruit trees to provide a welcome habitat for wild bees. By establishing numerous flowering and meadow areas, our teams in Fronhofen and Schmidhausen have created biotopes that are used by wild hares. In Lesum and Harsefeld, we have erected falcon masts as well as providing one mast each for stork pairs to help them breed.



Reducing CO₂

We are continuously working on optimising our energy balance and energy efficiency. Photovoltaic systems have been installed at the Harsefeld and Uelsen sites. They generate over 400 MWh of green electricity each year. On top of that, we engage ourselves through our participation in OGMP 2.0. Efforts are put into the improvement of the assessment and the reduction of fugitive emissions through regular leak detection and repair campaigns. Avoiding venting gas into the atmosphere during the main planned maintenance activities can be achieved through reinjection underground or into the transport grid and for the remaining part through the utilisation of a mobile hot-flaring unit. A focus is also put on reducing gas emissions from our industrial processes and especially from our compressor.

Health and safety

Safety comes first at Storengy

We recognise that safety and sustainability are top priorities in our operations. We are proud to have been accident-free for over 7,500 days. This impressive track record is the result of our unwavering commitment and the consistent implementation of measures to ensure your safety.

Commitment to occupational safety

Our operations not only fulfil all legal requirements for occupational health and safety, but also go above and beyond. We have a certified management system for occupational safety, which ensures that your safety and that of our employees is always guaranteed.

Prepared for emergencies

Safety does not end with the prevention of accidents. At Storengy, we have detailed internal regulations and alarm plans to ensure that we can act appropriately in emergencies. Regular drills help us to maintain our ability to react.

STOREMAN consortium

We are a proud member of the “STOREMAN” consortium, which includes leading gas storage operators in Germany. Together, we have the extinguishing equipment required in the event of a crisis and work hand in hand to ensure the safety of our facilities.



Storengy & you

At Storengy Deutschland, we attach great importance to a good partnership and cooperation with our customers. Their needs are at the centre of our work. The fact that we are on the right track is reflected in our latest customer survey. It provides confirmation and an incentive for the future at the same time.



* On a scale of 0 to 10 would you recommend Storengy Deutschland to your colleagues? (0 means "I would definitely not recommend" and 10 means "I would definitely recommend".)

storengy



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