KYOS Energy Analytics

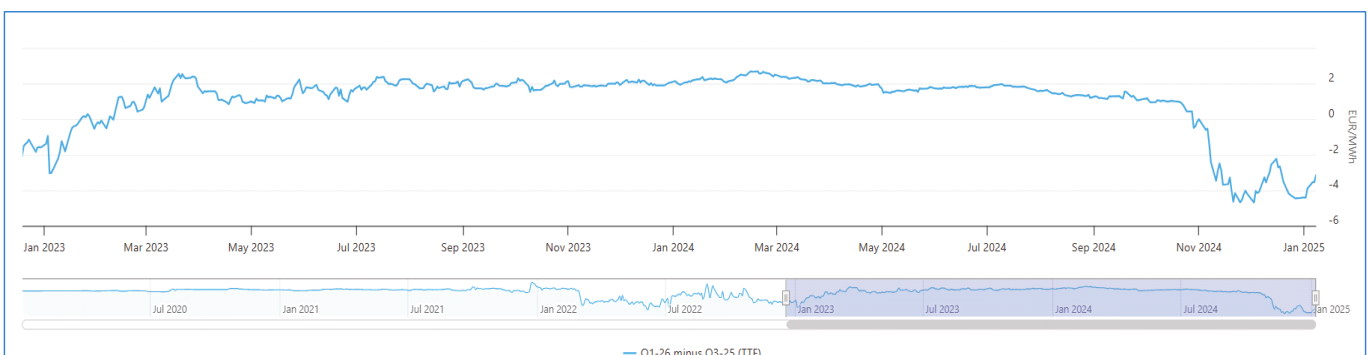# Gas storage and Swing report

No 45 • January 2025

Storage and swing contract developments

	Market	Product	Period	Cycle Cost	Intrinsic	Rolling intrinsic		Option	
						Average	10%	Average	10%
Storage	**TTF**	30/30	SY2025	0.50	0.00 ⇔	8.10 ▼	4.45 ▼	9.28 ▼	6.21 ▼
	TTF	60/60	SY2025	0.50	0.00 ⇔	4.12 ▼	2.27 ▼	4.72 ▼	3.00 ▼
	TTF	60/120	SY2025	0.50	0.00 ⇔	2.31 ▼	1.30 ▼	3.21 ▼	2.06 ▼
	NBP	30/30	SY2025	1.00	0.00 ▼	29.50 ▼	18.00 ▼	31.77 ▼	23.70 ▼
	NBP	60/60	SY2025	1.00	0.00 ▼	15.83 ▼	9.20 ▼	16.98 ▼	12.52 ▼
	NBP	60/120	SY2025	1.00	0.00 ▼	9.62 ▼	5.47 ▼	11.85 ▼	8.33 ▼

	Market	Max/ day	Min/ max	Period	Price	Intrinsic	Rolling intrinsic		Option	
							Ave	10%	Ave	10%
Swing	**TTF**	4	360/360	2026	56.70	-0.02	0.10	-0.02	0.14	-0.42
	TTF	1	0/365	2026	56.70	0.00	4.06	0.36	3.92	0.64
	TTF	4	360/360	2026	MA	-0.02	2.01	0.92	3.07	2.10
	NBP	4	360/360	2026	150.60	-0.02	0.18	-0.01	0.25	-0.99
	NBP	1	0/365	2026	150.60	0.00	9.17	0.97	9.19	1.27
	NBP	4	360/360	2026	MA	-0.02	5.98	2.90	8.24	5.71

Price development: TTF

Q1-26 minus Q3-25 (TTF)

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Price developments: NBP
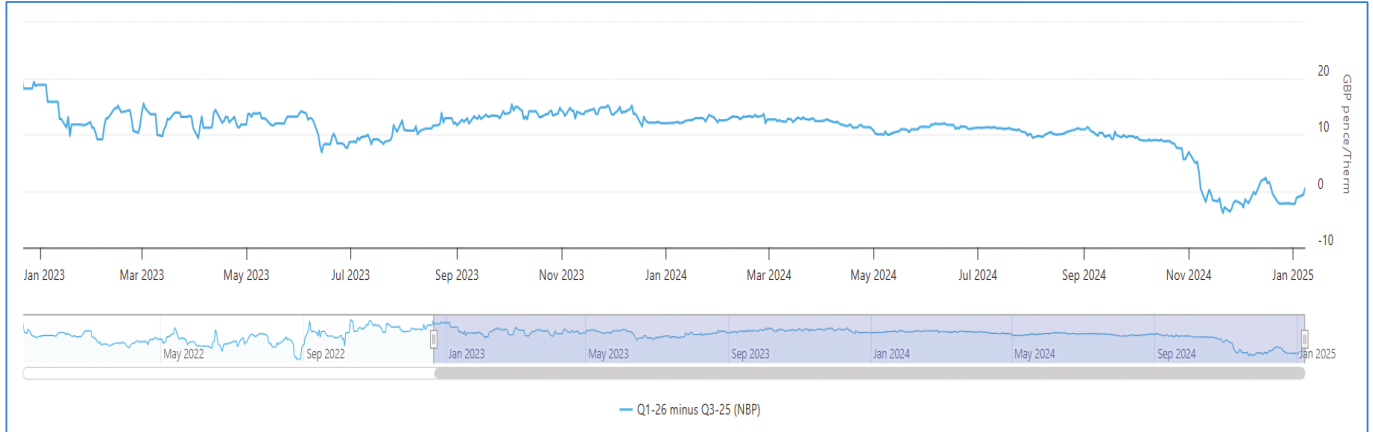
Volatility

Market	Spot volatility					Year-ahead Forward volatility				
	1m	3m	6m	12m	KYOS sugg.	1m	3m	6m	12m	KYOS sugg
TTF	18% ▼	18% ▲	18% ▼	22% ▼	38% ▼	48% ▲	37% ▲	34% ▲	35% ▲	30% ▼
NBP	12% ▼	23% ▼	41% ▼	41% ▼	46% ▼	49% ▲	37% ▲	34% ▲	35% ▲	30% ▼
THE	13% ▼	17% ⇔	17% ▼	23% ▼	38% ▼	45% ▲	36% ▲	33% ▲	34% ▲	30% ▼
PEG	17% ▲	17% ▲	16% ⇔	21% ▼	46% ▼	46% ▲	37% ▲	33% ▲	35% ▲	30% ▼

Price forward curves
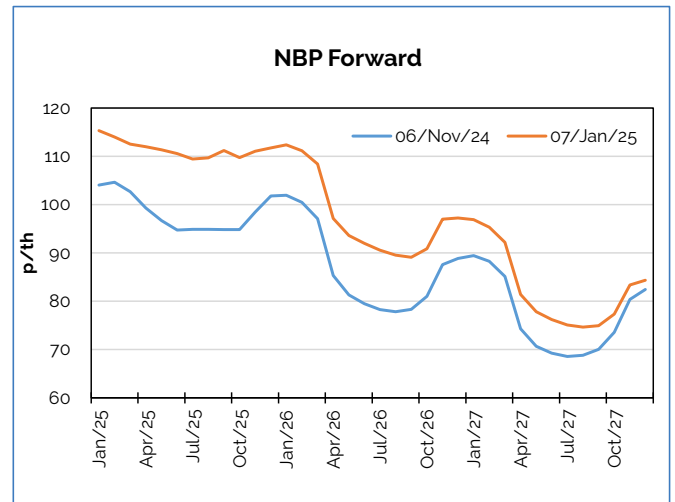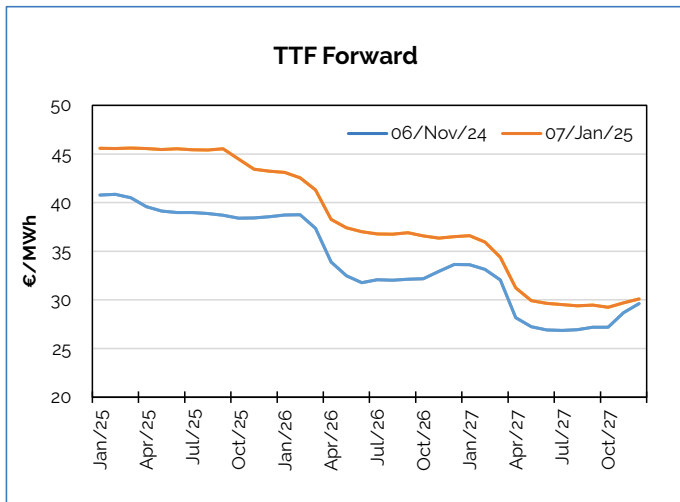
Market trend

EU gas storage levels depleted rapidly since November, moving down from 95% to below 70%. In fact, the gas burned at European power plants increased by 23% y-o-y, mainly on the back of lower wind output, while EU total gas imports (LNG & pipelines) fell by 12% at the same time.

As a result, gas forward prices increased substantially compared to our last release (see charts on the left under ;Price curves). The TTF Cal-26 contract jumped by 18% and the NBP equivalent gained 15% in the past two months.

At the turn of the New Year, with cold temperatures and as Russian gas exports via pipelines running through Ukraine came to a halt, TTF front-month prices settled above 50 EUR/MWh.

These developments have killed the seasonality of gas prices, with Summer contracts trading about 4 EUR/MWh above next winter prices for TTF, while this seasonal spread also flipped for NBP (see charts on the first page and left - Price developments).

The EU Commission recently raised the 1st February EU-storage fullness target to 50% (up from 45%) to discourage excessive withdrawals. For the 1st November 2025, the target remains at 90%.

We are interested to hear your opinion on our assessments. Where do you see volatility at the moment? Please share your insights at info@kyos.com.

Explanation

Storage
- Product: 60/120 means 60 days of withdrawal and 120 days of injection capacity.
- The storage values are expressed per MWh (or therms) of working volume.

Swing

Product	Price
Max/day is the maximum daily take	A fixed price put at Q1 level or
Min/Max are the minimum and maximum annual take	Month-ahead indexed price (MA)

The swing values are per MWh or therms of contract volume, which is 365 for the daily callable options (max 1 per day) and 360 for other contracts (max 4 per day).

Volatilities
The volatilities are derived from the end-of-day settlement prices of gas spot and futures exchanges. They are calculated with a history of 1, 3, 6 and 12 months. The 'KYOS suggested' volatilities are our expert view, considering the historical estimates as well as recent market developments. These estimates are used for the valuations.

Valuation Methodologies
- All valuations have been performed with KYOS software and models, KyStore and KySwing. They are expressed in €/MWh (TTF) or p/th (NBP). Inputs include the spot and forward volatilities from the table in this report, as well as forward curves and some other settings.
- The trading date for all values is 3 January 2025.
- A discount rate of 2% has been applied.
- Intrinsic values are derived from the tradable products in the market.
- Rolling intrinsic and option values are derived from Monte Carlo simulations of spot and forward prices:
  - Rolling intrinsic: the intrinsic value is locked in initially with tradable products; then this position, including spot, may be adjusted daily to capture extra value.
  - Option value: the spot trades are optimized, taking into account the optionality of the asset, based on the least-squares Monte Carlo method. In addition, the position is delta hedged in the forward market to minimize the risk.
  - Of the rolling intrinsic and option value, the table shows the average across the simulations and the 10th percentile, which is a more conservative value estimate.
  - In all trading strategies, the model takes into account transaction costs of 0.02 €/MWh (TTF) or 0.02 p/th (NBP)

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Advantages KYOS

KyStore supports traders and portfolio managers in natural gas markets. The gas storage optimization software raises revenues from gas storage trading operations, and provides accurate valuations and reduces risk with adequate hedge recommendations. The model uses advanced stochastics including Least Squares Monte Carlo techniques to capture the full optionality in gas storage facilities. All storage characteristics are included in the software. This includes time and volume dependent injection and withdrawal rates, plus time varying costs, interruption rights and reduced availability because of maintenance.

Swing options are typical components of gas contracts, which offer the opportunity to vary the contracted volume under a number of restrictions. They are also known as Take-or-Pay (ToP), interruptible and variable load contracts. **KySwing** helps to generate most income from gas contracts by optimizing the swing contract flexibility. Reduce your risk on future income by forward hedging. The model applies advanced stochastics to find the optimal exercise.

KyStore and KySwing are fully embedded in the KYOS Analytical Platform. Automated data feeds ensure that you get up-to-date trading recommendations every day. Transparency is guaranteed, because analysts can evaluate each individual price scenario.

Scan for more information
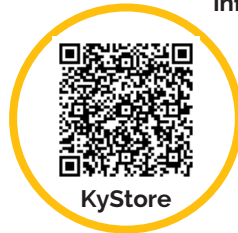
KyStore

KySwing

KyStore and KySwing Benefits
- Increase revenue & manage risks of gas storage products
- Captures all storage characteristics
- Quick calculations, fully automated
- Easily interfaced with market data
- Accurate valuations and hedges via LSMC methodology

This is just a brief overview of what we can offer you. Have a look at our website **www.kyos.com** for more detailed information.

Do not hesitate to contact us for more information, or a short demonstration: **info@kyos.com**

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